

The Quantity Theory of Credit and Some of its Applications

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Some Open Questions in Macroeconomics

1. Why are interest rates often not effective in moving the economy?
2. Why do we have recurring banking crises?
3. Why are banks special?
4. What is money and how can we measure it accurately?
5. The anomaly of the velocity decline
6. What determines asset prices?
7. Why is fiscal policy often not very effective even in the short-run?

What is the Link between Money and the Economy?

- | | |
|--------------------------------------|---|
| ➤ Classical Economics | $MV=PY$; price of money i |
| ➤ Keynesian Economics | $MV=PY$; price of money i |
| – IS-LM Synthesis | |
| – Phillips Curve | |
| ➤ Monetarism | $MV=PY$; price of money i |
| ➤ New Classical Economics | |
| – Rational Expectations | $MV=PY$ |
| – Real Business Cycles / Supply-side | |
| ➤ Fiscalist / Post-Keynesian | $MV=PY$ |
| ➤ New Monetary Policy Consensus | M does not matter;
price of money i is key |

The Link Between Money and the Economy

Conventional theory assumed that all money is used for GDP transactions.

Effective Money = nominal GDP

MV = PY

with constant or stable V

“an identity, a truism” (M. Friedman, 1992)

“valid under any set of circumstances whatever” (Handa, 2000)

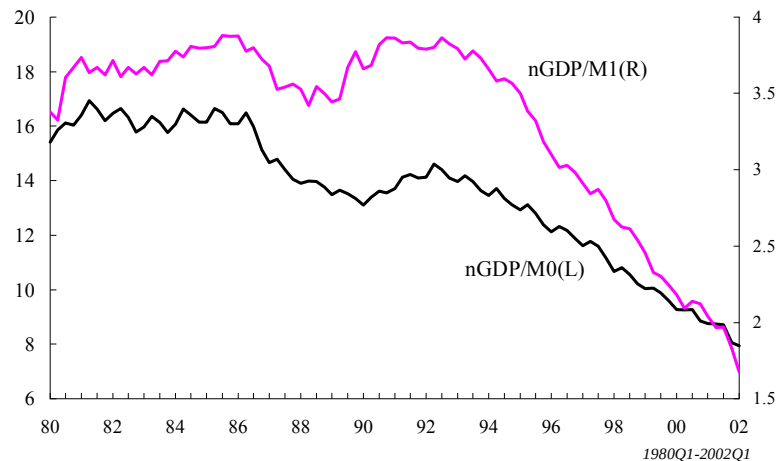
Really?

The relationship between Money and Economy ‘broke down’

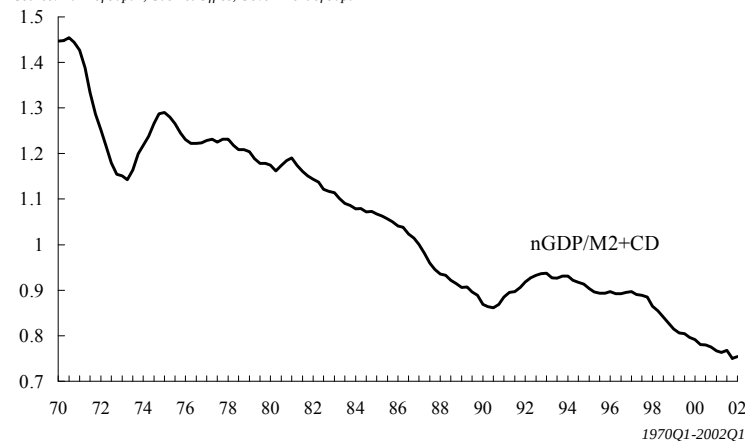
$$MV = PY; \quad M^d = kPY \\ (V \text{ const.}; k \text{ const})$$

But:

- **Velocity** of ‘M’ deposit aggregates **declined**
- **‘Breakdown of the money demand function’** in Japan, US, UK, Scand., Asia
- **‘Mystery of the missing money’**
- This is a world-wide “puzzling” anomaly Belongia Chalfant (1990).
- The quantity relationship “came apart at the seams during the course of the 1980s” Goodhart (1989).



Source: Bank of Japan, Cabinet Office, Government of Japan



Source: Bank of Japan, Cabinet Office, Government of Japan

The Link Between Money and the Economy

Instead of solving the puzzle of the velocity decline (*where did the money go?*), many economists took the **easier route of adopting moneyless economic models, thus simply assuming the problems away**

But: The puzzle of the link between money and the economy can be solved

The standard 'equation of exchange'

$$(1) \quad PY = MV$$

is a special case of

$$(2) \quad PQ = MV \quad (\text{Fisher, 1911})$$

Implicit assumption:

$$(3) \quad PY = PQ \text{ (i.e. all transactions are part of GDP)}$$

But: asset transactions are not part of GDP.

Problem of traditional approach: it ignores financial transactions, which are often larger than real economy transactions (Werner, 1992, 1997)

Explanation of the 'anomalies': The Quantity Theory of Credit (Werner, 1992, 1997)

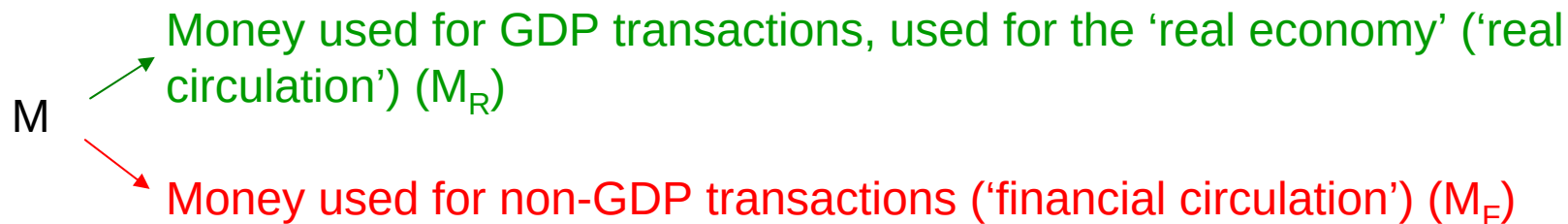
The link between money and the economy

What **is true**:

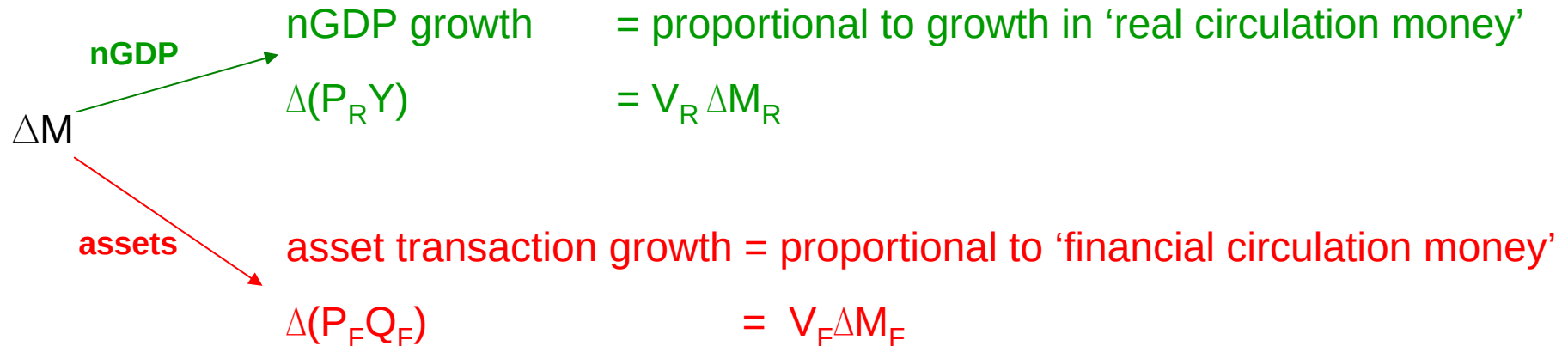
$$\begin{array}{rcl} \text{money used} & = & \text{value of all transactions} \\ MV & = & PQ \end{array}$$

Since a substantial proportion of money is used for **transactions that are not part of GDP**, we need to divide money into two streams:

$$M = M_R + M_F$$



Considering growth:



This explains many puzzles in economics:

- velocity decline
- asset prices
- the 'Great Moderation'
- why interest rate and fiscal policy have been ineffective
- why there are recurring banking crises

But: How can we separate money 'M' into two streams in practice?

Fisher, Keynes and Friedman considered but failed to disaggregate money

How to measure money 'M'? --- What is money?

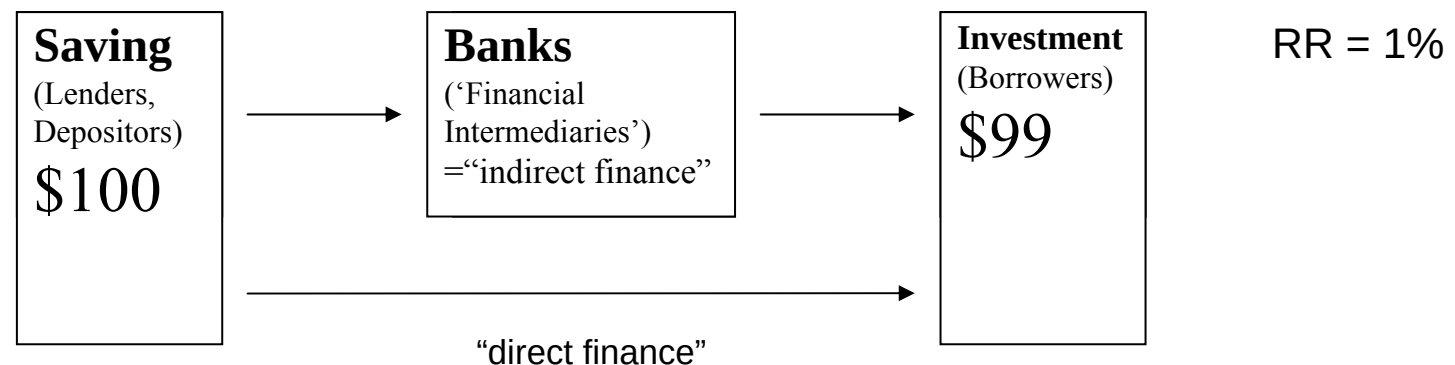
- Textbooks say they **do not know**. They talk about deposit aggregates M1, M2, M3 or M4, but admit that these are not very useful measures of the money supply.
- The M measures are not in a stable and reliable relationship to economic activity ('velocity decline', 'breakdown of money demand')
- "Once viewed as a pillar of macroeconomic models", it "is now ... one of the weakest stones in the foundation" (Boughton, 1991).
- Even the **Federal Reserve does not tell us just what money is:**

"there is still no definitive answer in terms of all its final uses to the question: What is money?"

Do we understand banks properly?

What makes banks special?

- Fama (1985) shows that banks must have some special power
 - a monopoly power – compared to other financial institutions.
- Mainstream theories offer no clear answer what this is.
- Leading textbooks represent banks as **mere financial intermediaries**:



Some crucial facts about banking that textbooks neglect

- A loan is when the use of something is handed over to someone else.
- If I lend you my car, I can't also use it myself.
- **There is no such thing as a bank loan.**
- When banks 'lend' money, **they are not extending loans.**
- What banks do is more important – the single most important fact about how economies actually work.

What is money?

- Where does it come from?
- Only about 3% of the money supply comes from the central bank.
- Who creates the remaining 97% of our money supply and who allocates this money?

A: The commercial banks

- This explains why banks are special: They are not (just) financial intermediaries. They have a license to 'print money' by **creating credit**. There is no such thing as a 'bank loan'. Banks do not lend money, they create it.

Banks create money – out of nothing

Balance Sheet of Bank A

Step 1 New deposit of \$100 with Bank A

Assets	Liabilities
	\$ 100

Step 2 Bank A uses the \$100 as reserve with the central bank

Assets	Liabilities
\$ 100	\$ 100

Schritt 3 With a reserve requirement of 1%, Bank A can now extend \$ 9,900 in credits. Where do the \$ 9,900 come from? From nowhere.

Assets	Liabilities
\$ 100	\$ 100
+	+
\$ 9,900	\$ 9,900

This makes banks special: They create the money supply

- Their role as the economy's accountants AND their ability to individually create credit makes banks special (MacLeod 1855; Schumpeter 1912)
- The textbook representation is incorrect: banks are not merely financial intermediaries. They are special, because they **create new money 'out of nothing' = credit creation**
- **This is how 95-98% of our 'money' is created – by commercial enterprises.**
- **The creation of the money supply has been in private, commercial hands for a long time.**

Schumpeter (1954): "...it proved extraordinarily difficult for economists to recognise that bank loans and bank investments do create deposits. In fact, throughout the period under survey they refused with practical unanimity to do so".

Bank Credit Creation: Not in Economics Textbooks, but Admitted by Central Banks:

“The actual process of money creation takes place primarily in banks.”
(Federal Reserve Bank of Chicago, 1961, p. 3);

“By far the largest role in creating broad money is played by the banking sector ... When banks make loans they create additional deposits for those that have borrowed.”
Bank of England (2007)

“Over time... Banknotes and commercial bank money became fully interchangeable payment media that customers could use according to their needs” (ECB, 2000).

“Contemporary monetary systems are based on the mutually reinforcing roles of central bank money and commercial bank monies.” (BIS, 2003).

“The commercial banks can also create money themselves... in the eurosystem, money is primarily created by the extension of credit...” (Bundesbank, 2009)

Banking and the Economy

How to measure money 'M'?

- standard deposit measures inadequate; they measure money not used for transactions, i.e. money out of circulation
- the equation of exchange says that
the money used for transactions must be equal to the value of these transactions.
- the majority of transactions takes place without cash, as book-entries in the banking system
- for growth, i.e. **an increase in transactions, more purchasing power/money must have been created.**
- in our financial system this is possible only via **credit creation.**
- thus the right measure of 'money' in the equation of exchange is credit/ credit creation.

The Quantity Theory of Credit (Werner, 1992, 1997)

Disaggregated Equation of Exchange:

$$(4) \quad C_R V_R = P_R Q_R = P_R Y \quad \text{'real circulation'}$$

$$(5) \quad C_F V_F = P_F Q_F \quad \text{'financial circulation'}$$

Growth:

$$(6) \quad \Delta(P_R Y) = V_R \Delta C_R \quad \text{determination of nom. GDP}$$

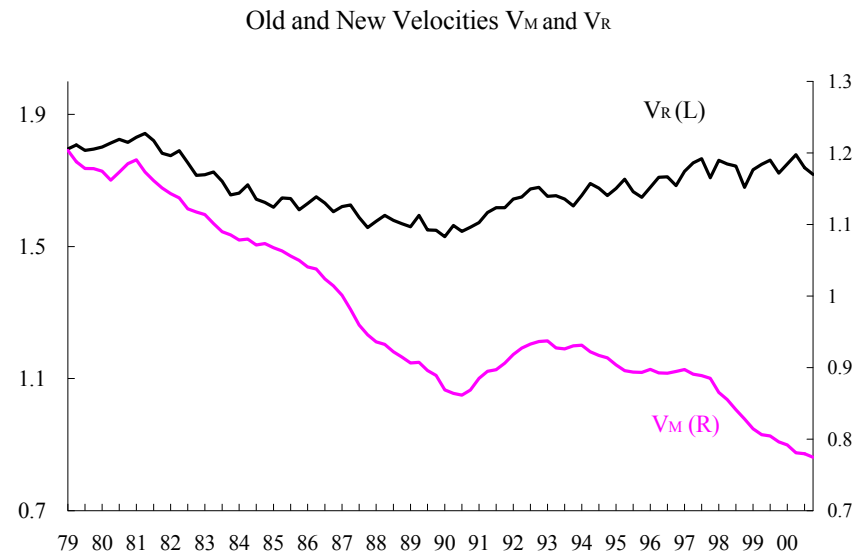
$$(7) \quad \Delta(P_F Q_F) = V_F \Delta C_F \quad \text{det. of asset markets}$$

This Explains Major ‘Puzzles’ in Macroeconomics

1. The anomaly of the ineffectiveness of interest rate policy
2. The anomaly of banks
3. The anomaly of the recurring banking crises
4. The anomaly of the velocity decline
5. The anomaly of the inability to measure money
6. The anomaly of asset price determination
7. The anomaly of the ineffectiveness of fiscal policy

Explaining the 'Velocity Decline'

- If credit for financial transactions rises, the traditional definition of velocity will give the illusion of a velocity decline.
- The correctly defined velocity of real circulation remains constant.



source: Cabinet Office, Government of Japan, Bank of Japan

1979Q1-2000Q4

Determinants of Japanese Growth

- Empirical test/estimation of theoretical relationship

$$(6) \quad \Delta(P_R Y) = V_R \Delta C_R$$

- strictest test: Hendry approach of general-to-specific reduction
- general empirical model: $\Delta \text{GDP} = f(\text{call rate, JGB yield, M2+CD, HPM, CPI, ODR and } C_R)$

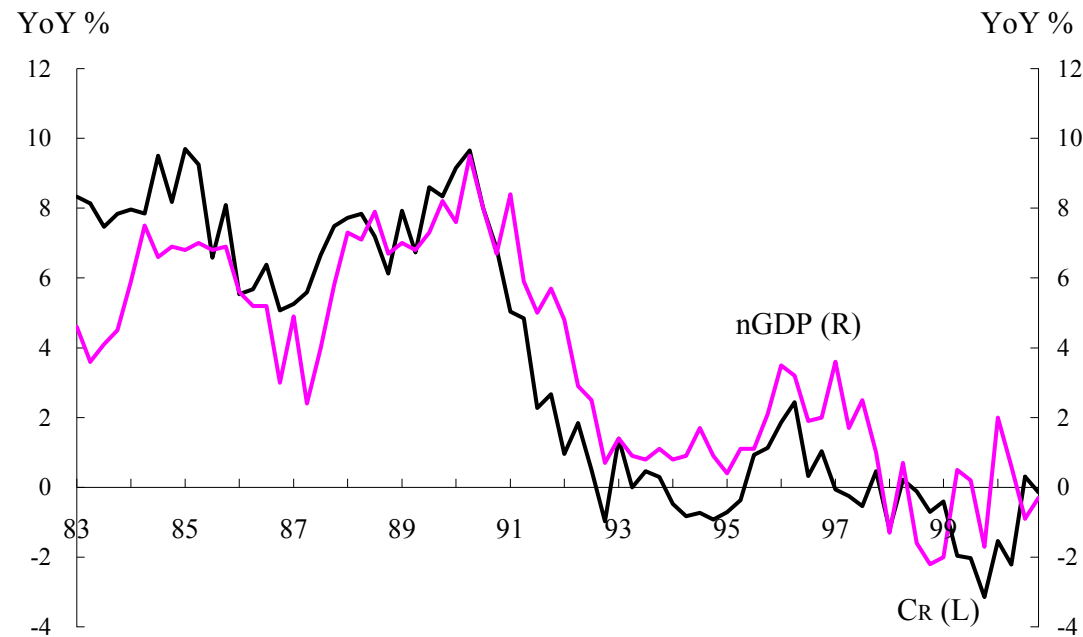
- downward reduction to parsimonious (specific) form yields:

$$(8) \quad \Delta \text{GDP}_t = \alpha_j + \beta_1 \Delta \text{GDP}_{t-1} + \gamma_1 \Delta C_{Rt} + \gamma_2 \Delta C_{Rt-3} + \varepsilon_t$$

- Only credit variable C_R survives general-to-specific downward reduction
- No normality problems; Granger causality unidirectional from C_R to GDP

Determinants of Japanese Growth

Eye inspection: ΔC_R and nominal GDP $\Delta(P_R Y)$



Latest: Q4 2000

Some Implications:

1. Cause of the Japanese recession: banks were burdened with bad debts, became more risk-averse and reduced lending (C_R fell).
2. If the central bank does not compensate, total credit shrinks and growth must fall.
3. Necessary and sufficient condition for more growth is a rise in credit creation used for GDP transactions. This did not happen sufficiently during the 1990s in Japan.
4. The Bank of Japan could have created a recovery at any time
How? Just like in 1945 (asset purchases incl. bad loans; direct lending; loan guarantees).

Determinants of Asset Prices

- If C_F rises, asset transaction values will rise:

$$(7) \quad \Delta(P_F Q_F) = V_F \Delta C_F$$

- for land prices:

$$(7') \quad \Delta P_F = (V_F / A) \Delta C_F$$

- empirical test yields:

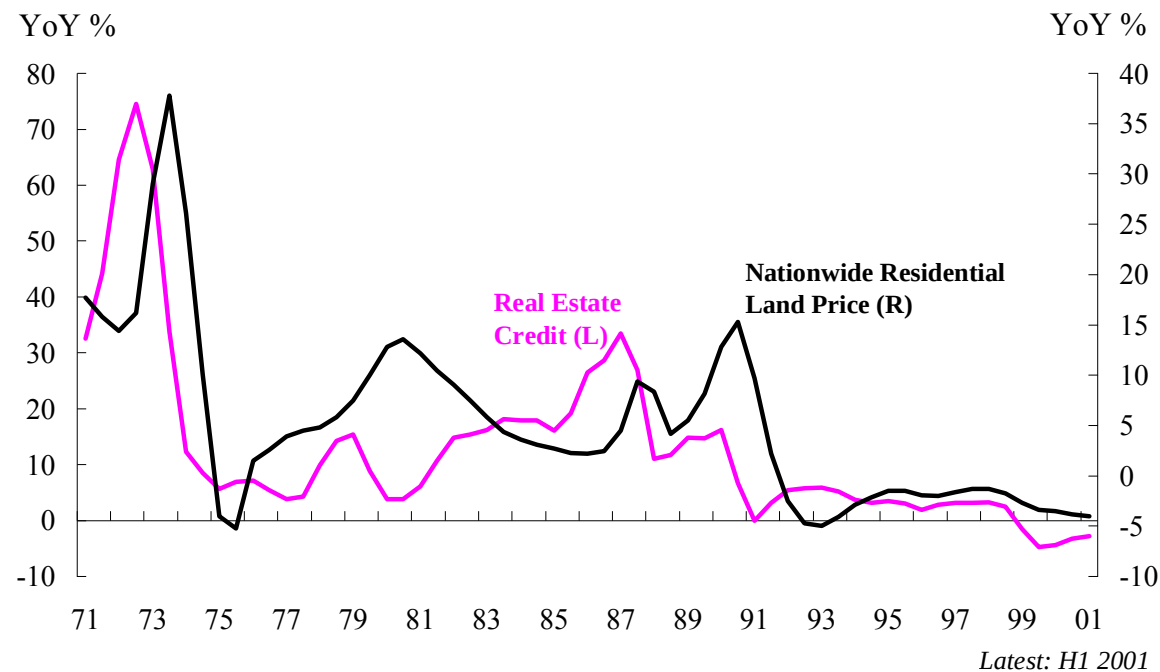
$$(9) \quad \Delta P_F = \alpha + \beta \Delta P_{F,t-1} + \gamma_1 \Delta C_{F,t-1} + \gamma_5 \Delta C_{F,t-5} + \varepsilon_t$$

- no normality problems; Granger causality unidirectional from C_F to P_F

Determinants of Asset Prices

- More credit used for real estate transactions pushed up land prices (and vice versa).

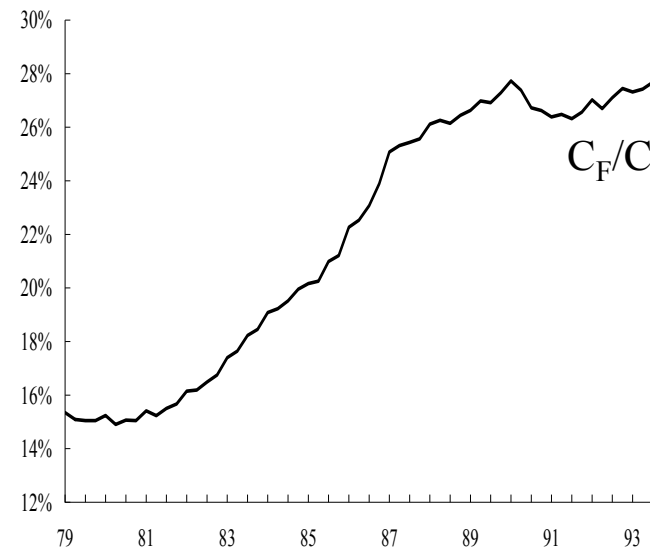
Eye inspection: ΔC_F and land prices



Credit explains the boom/bust cycles

- A significant rise in speculative credit creation C_F/C must lead to:
 - increased ‘financialisation’ and lack of support for productive industries
 - asset bubbles and busts
 - banking and economic crises

- Case Study Japan in the 1980s:



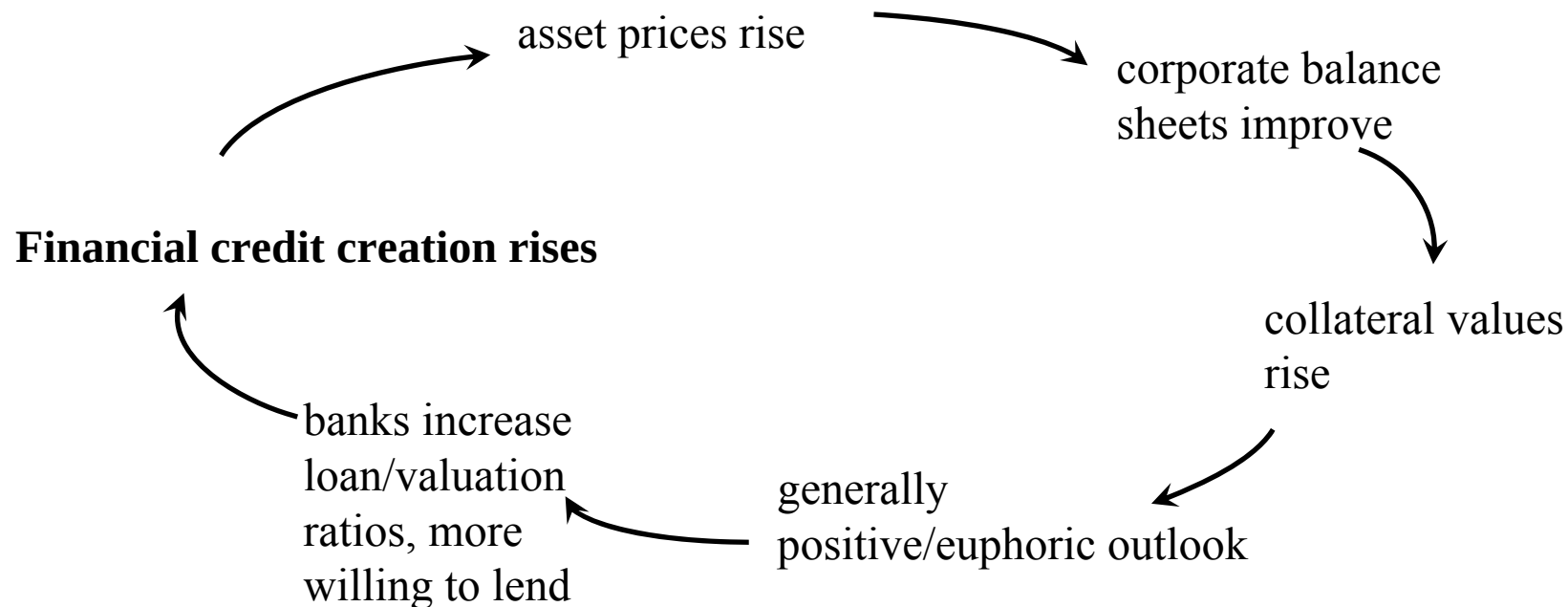
Source: Bank of Japan
Loans to the real estate industry,
construction companies and non-
bank financial institutions

Types of Speculative Credit Creation (C_F)

- Margin loans (credit for financial speculation)
- Loans to non-bank financial institutions
- Credit for real estate speculation:
 - to construction companies
 - Mortgages, buy-to-let mortgages
 - real estate investment funds, other financial investors
- Loans to structured investment vehicles
- Loans to Hedge Fonds
- Loans for M&A
- Loans to Private Equity Funds
- Direct financial investments by banks

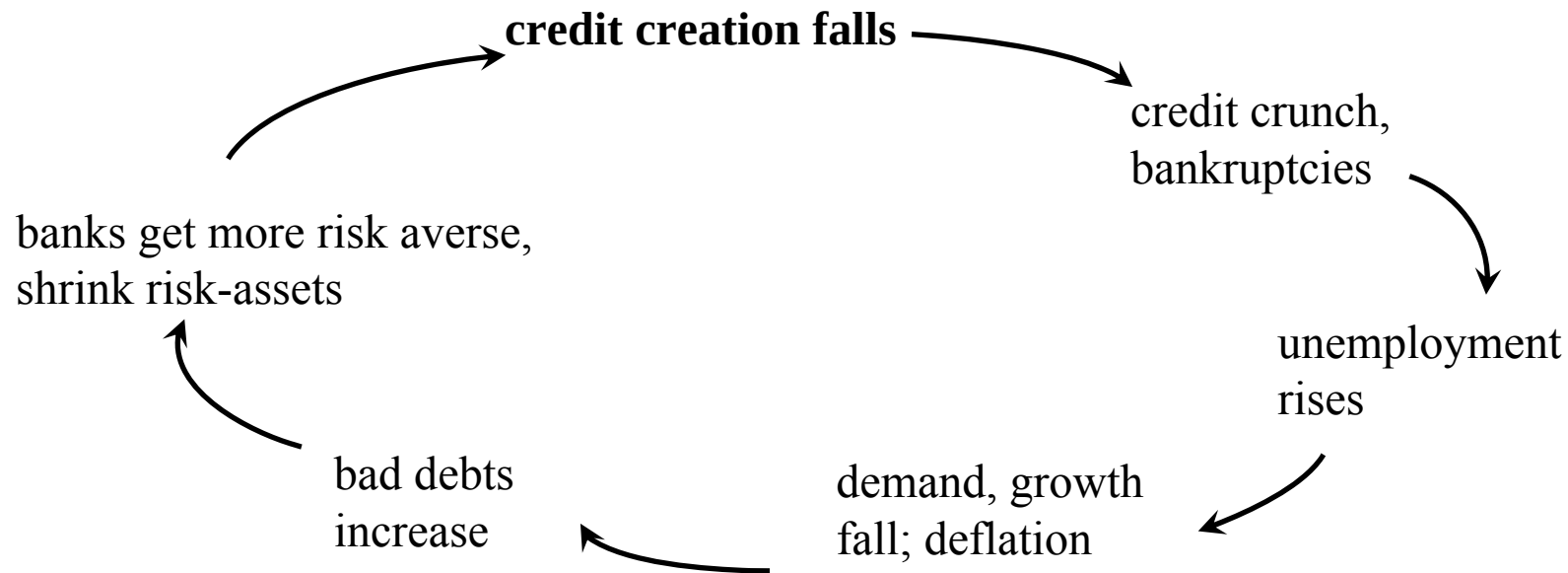
This is how the 'Bubble Economy' works:

- The proportion of financial credit creation rises ($C_F / C \uparrow$).
- This creates capital gains from speculation and bolsters balance sheets.
- The myth of the continually rising asset price comes about



This is how the banking crisis and debt deflation works

- The creation of speculative credit suddenly drops ($C_F \downarrow$).
- Usually triggered by central banks
- IMF 28 July 2008: „The vicious cycle has started...“



The Cause of Past Banking Crises

- USA 1920er Jahre (,Margin Loans‘): speculative credit creation
- Scandinavia in the 1980s: speculative credit creation
- Japan in the 1980s: speculative credit creation
- Asian Crisis, 1990s: speculative credit creation
- UK property bubble until 2007: speculative credit creation
- US property bubble until 2006: speculative credit creation
- Irish property bubble until 2007: speculative credit creation
- Spanish property bubble until 2007: speculative credit creation

The Quantity Theory of Credit (Werner, 1992, 1997)

$$\Delta(P_R Y) = V_R \Delta C_R$$

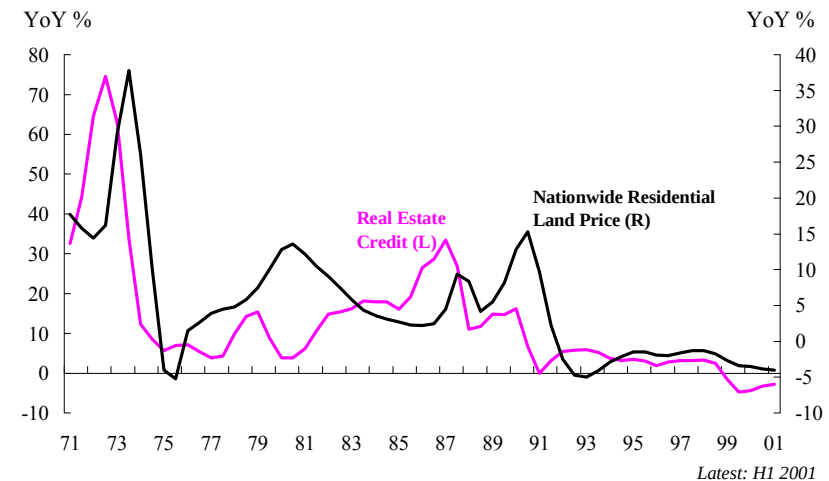
nominal GDP real economy credit creation

$$\Delta(P_F Q_F) = V_F \Delta C_F$$

asset markets financial credit creation



Real circulation credit determines
nominal GDP growth



Financial circulation credit determines
asset prices – leads to asset cycles
and banking crises

**Bank credit creation determines economic growth.
The effect of bank credit allocation depends on
the use money is put to**

Case 1: *Consumption credit*

***Result:* Inflation without growth**

Case 2: *Financial credit*

(= credit for transactions that do not contribute to and are not part of GDP):

***Result:* Asset inflation, bubbles and banking crises**

**= unproductive credit
creation**

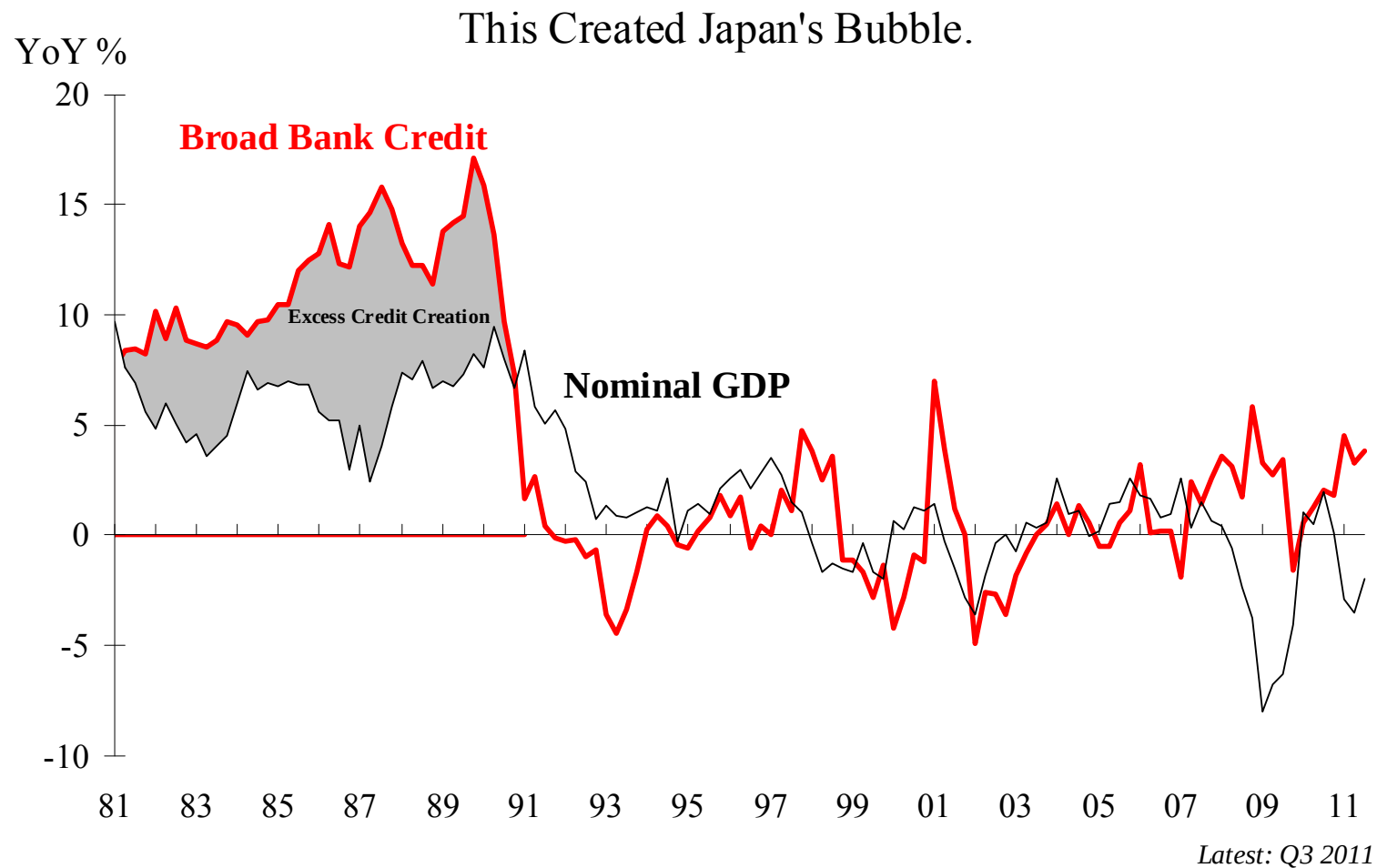
Investment credit

(= credit for the creation of new goods and services or productivity gains)

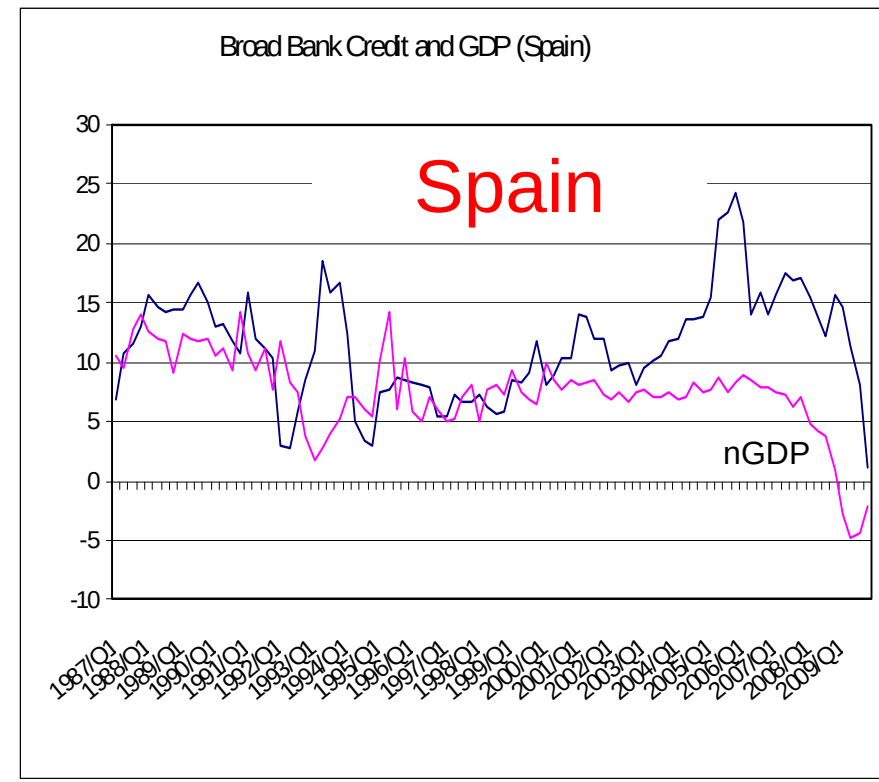
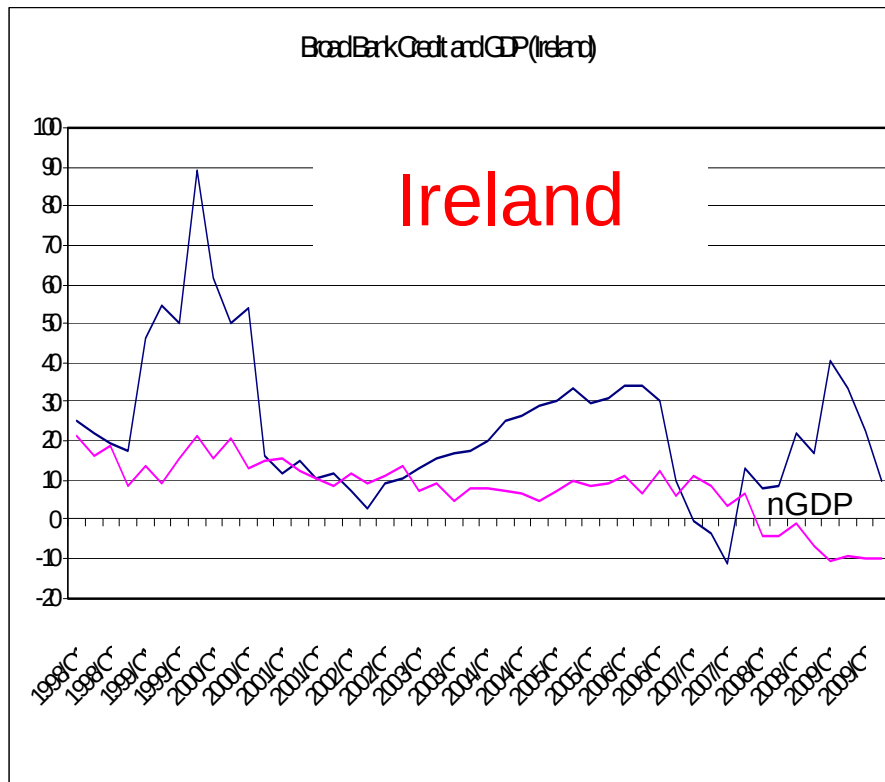
***Result:* Growth without inflation, even at full employment**

**= productive credit
creation**

Warning Sign: Broad Bank Credit Growth > nGDP Growth

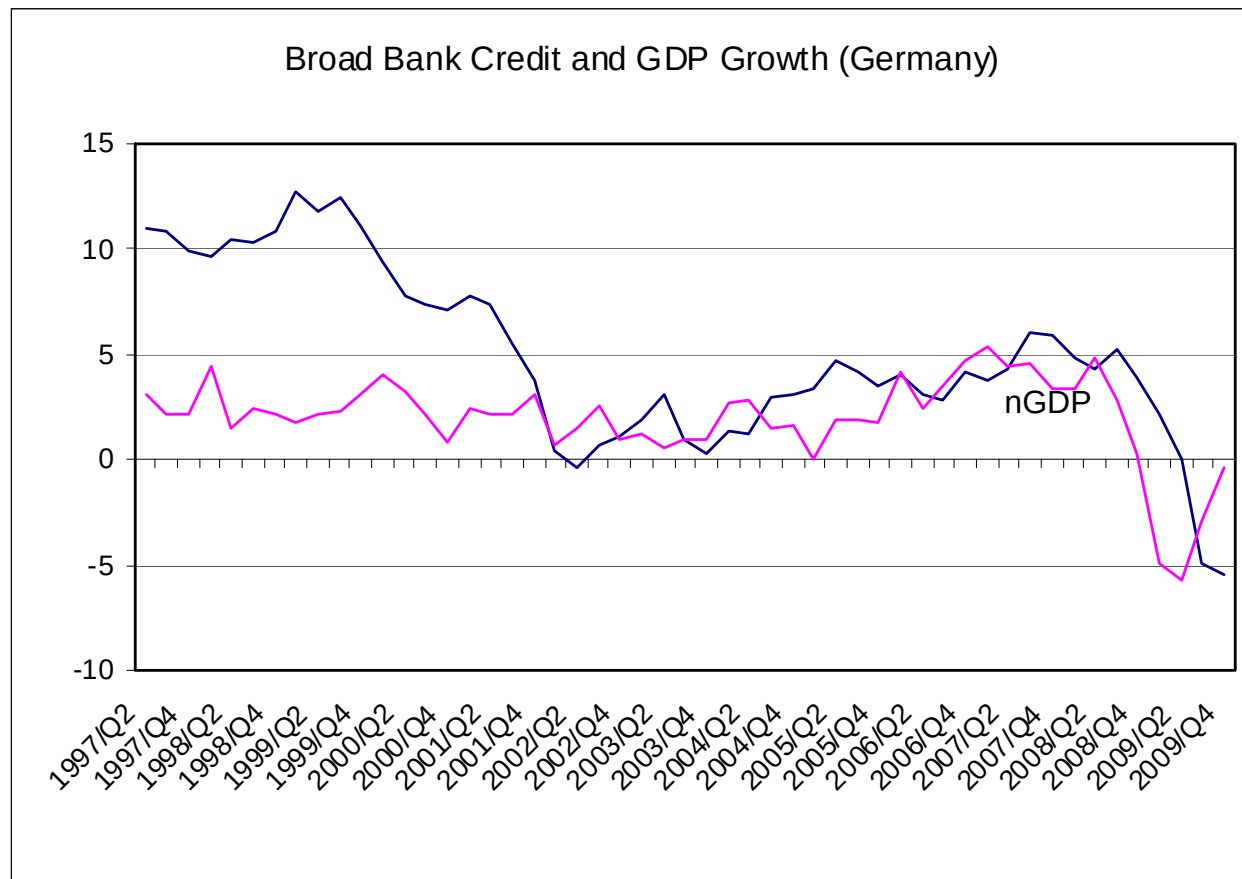


When broad credit creation exceeds nominal GDP growth significantly for several years a bubble is created that must end with a banking crisis



bank credit creation > nominal GDP growth

Germany could avoid this because its banking sector consists to 70% of small, local banks that create credit mainly for GDP (non-financial) transactions.



The Role of Banks in Shaping the Economy

- Once we recognise that banks create and allocate 97% of the money supply, it stands to reason that some kind of responsibility goes with this privilege.
- Banks are profit-seeking institutions that have not been asked to consider other factors in their credit creation and allocation decisions.
- They do not consider the macroeconomic or social welfare implications of their creation and allocation of money.
- They do not even consider how their actions might affect themselves in the long-run
- Banking has been an industry oblivious to sustainability considerations or the aim of the greater good for decades.

Bank credit creation is a public privilege

- It is not a law of nature that commercial banks should be the institutions creating and allocating the money supply.
- It is a public privilege granted to banks, on the implicit understanding that they will not use it against the public interest.
- However, governments and regulators have failed to ask banks to **create and allocate credit mainly for productive purposes** and transactions that are part of GDP. **Only productive credit creation is sustainable.**
- **Markets simply do not ensure an efficient allocation of credit.**
- Banks have responded by using the privilege to create the money supply **for their own short-term (speculative) gains.**
- This creates unsustainable asset bubbles and costly banking crises and subsequent recessions.

Policy Lessons

How to avoid the boom-bust cycles and banking crises

Policy Lessons

- Given the **pivotal role of credit creation and its allocation** all methods to **encourage productive credit creation** and **restrict unproductive bank credit** need to be considered.
- **Capital adequacy-based rules**, as recommended by the Basel Committee, have **no track record** of doing the job. They cannot end the boom-bust cycles and banking crises.
- The only tool that has an empirical track record in delivering both the right quantity and allocation of credit is a form of **direct 'credit guidance'** or 'credit controls', used in many countries (France until the 1980s: '*encadrement du credit*'; East Asia: '**window guidance**').
- This tool has been at the core of the East Asian economic miracle and remains the central mechanism explaining decades-long high and stable growth in China.

Quantitative policy tools of central banking

- The literature neglected the frequent practice by central banks to control bank credit creation directly – which is rational in world of imperfect information and market rationing:

‘informal’, unofficial control of bank credit called:

- ‘credit control’, ‘lending ceilings’, ‘corset’ (US, UK)
- ‘l’encadrement du credit’ (France)
- ‘Kreditlenkung/Kreditplafondierung’ (Germany, Austria)
- ‘credit planning scheme’ (Thailand)
- **‘window guidance’ (窗口指導) (Japan, Korea, China)**

Empirical Results:

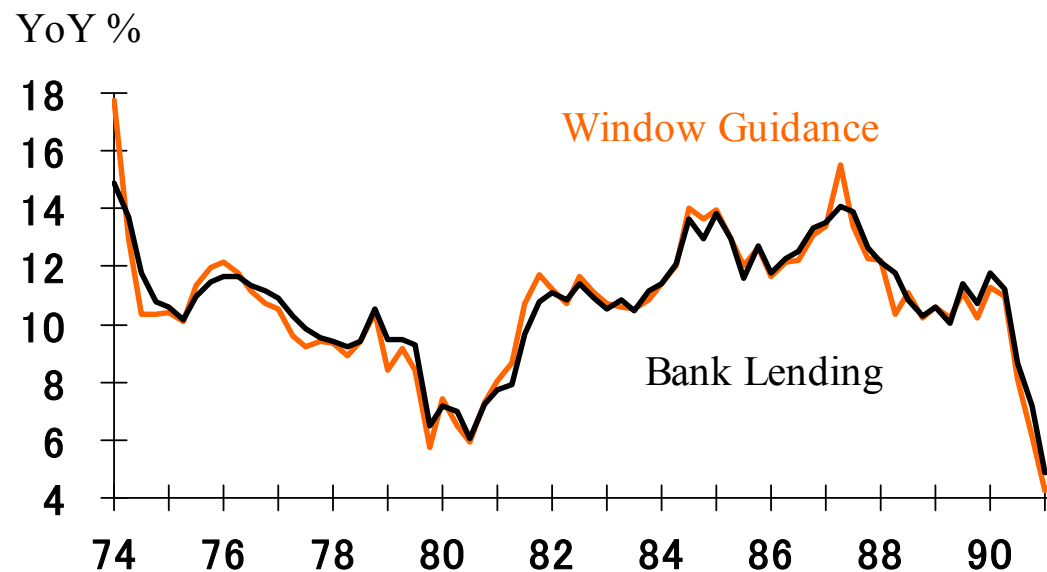
Official policy tools:

1. Price Tool (ODR, call rate): not relevant
2. Quantity Tool (operations, lending): not relevant
3. Regulatory Tool (reserve ratio): not relevant

Unofficial policy tool:

Direct credit controls: **no. 1 policy tool**

Bank Lending and "Window Guidance"



How to avoid banking and economic crises:

1. Avoid unproductive credit creation (speculative and consumptive credit creation).

If this form of credit creation rises in the banking system, it cannot be repaid without major problems. Crises follow.

2. Focus on productive credit creation.

Then banks have the highest chance of avoiding non-performing loans, asset bubbles, crises and bank failure. There will also be stable, non-inflationary growth without recessions.

The definition of 'productive' should include sustainability.

What is required: transparent quantitative and qualitative regulation of credit creation

- In the past this was rejected as 'inefficient interference' in the efficient functioning of 'free markets'
- Ironically, today, the UK, French, German and US governments are trying to re-assert influence on bank credit (to small firms, for mortgages). The French PM threatened to nationalise banks if they did not increase lending.
- Had proper regulation of the qualitative allocation of credit taken place earlier, the bubble could have been avoided.

Who carries greatest responsibility for the crisis?

- Investors, bank employees and mortgage borrowers merely responded to the incentive structure presented to them.
- The creation of bubbles and hence the crisis could have been **prevented by monitoring and directly targeting speculative credit creation.**
- **Central banks** have the means and know-how to do this; they did so world-wide until the early 1970s.
- In the 1980s they said that such 'credit guidance' had to stop as free markets would deliver better results, and, besides, that they should be granted total independence from the government.

Macroprudential policy

Goal: to avoid boom-bust cycles and banking crises

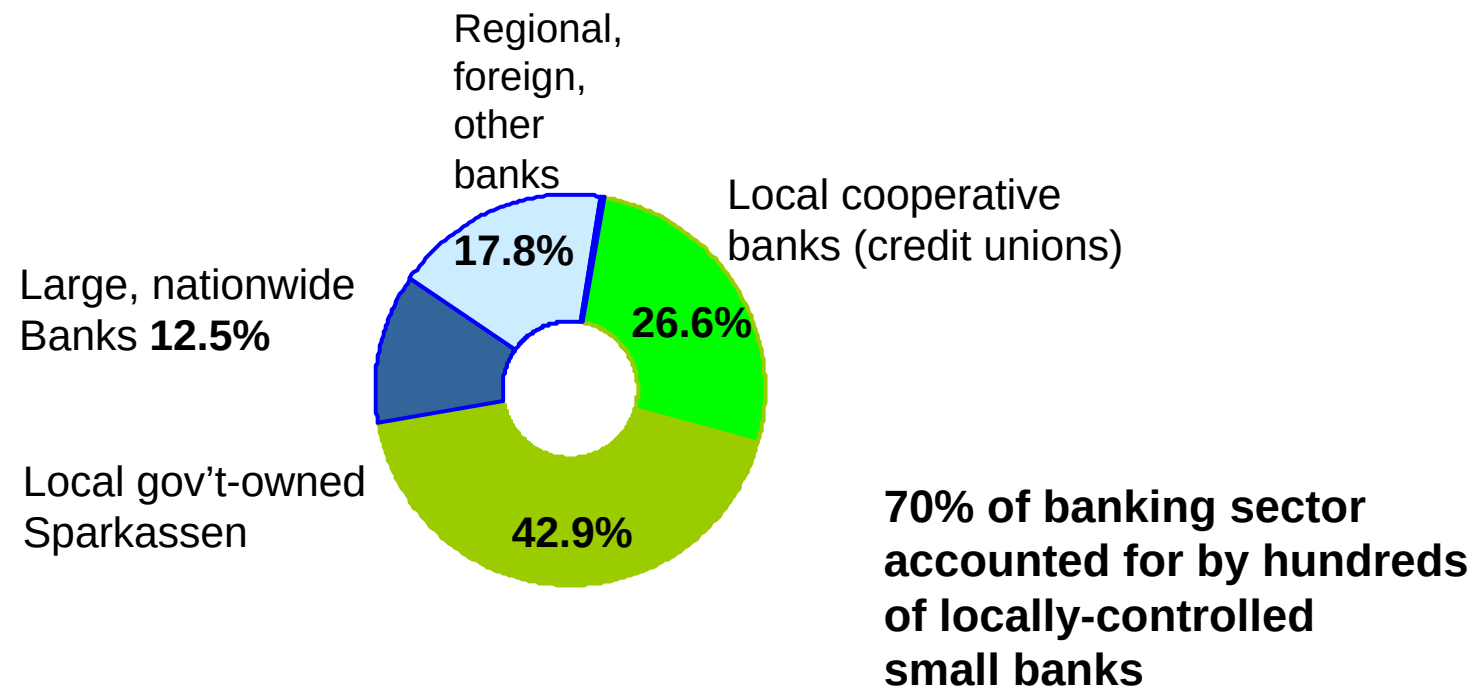
Tools available:

- Interest rates
- Basel capital adequacy (even anti-cyclical)
- Basel risk-weights adjusted for productive vs. unproductive credit creation (currently punishing productive and favouring unproductive credit creation)
- Direct monitoring of bank credit creation for non-GDP transactions, and using an array of tools to restrict it
 - loan/income ceilings
 - LTVs (Germany: 60%)
 - Banking sector structural policy (Germany)
 - Quantitative Credit Guidance (QCG)

Policy Lessons

- Another way to obtain a sustainable allocation of credit creation is to **shape the structure of the banking sector** so that banks dominate, which have **no interest in harmful speculative credit creation: small, locally-headquartered banks.**

Banking in Germany



Macroprudential policy

Quantitative Credit Guidance (QCG):

- Japan, Korea, Taiwan, China,
- before 1945: Germany
- after 1945: France, Austria, Italy, Spain, Sweden, India, Malaysia, Thailand, Singapore, Greece
- In many countries it was abandoned after 1972, due to the rise of the argument for deregulation, liberalisation and privatisation
- This produced usually asset bubbles and banking crises in regular and increasing intervals, of increased amplitude.
- The record of abandoning it/not using it: over 100 banking crises

The Case Against QCG – Credit Allocation

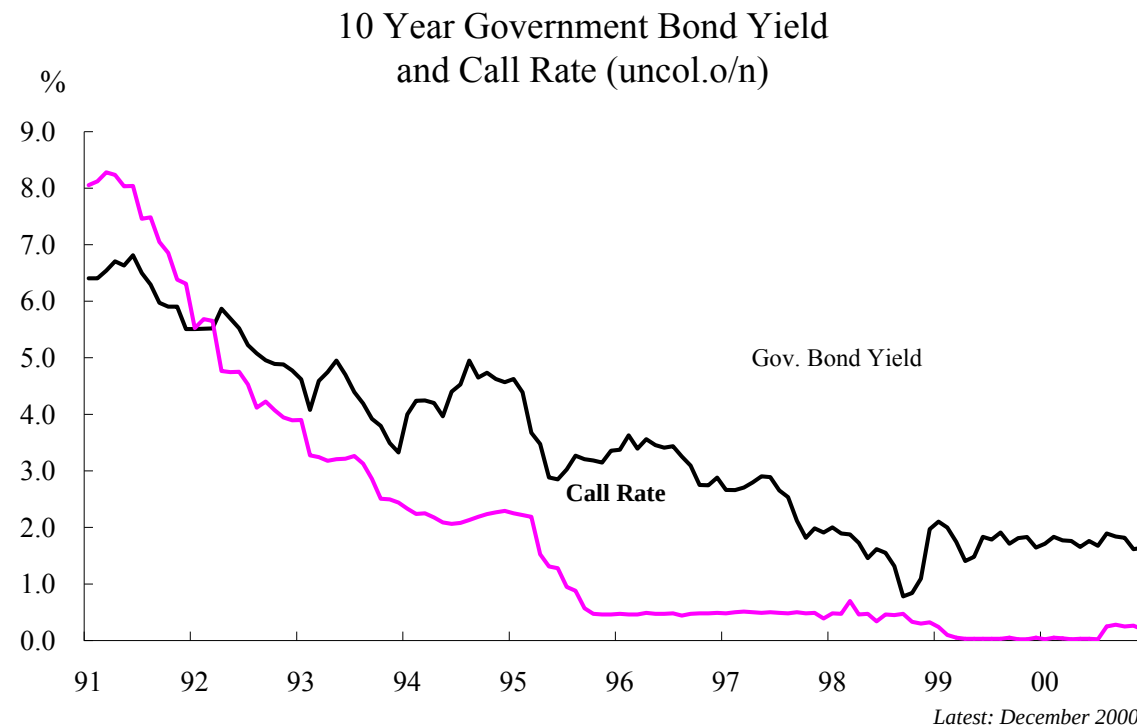
- “It is less efficient than the market on its own”
- This is a claim based on theoretical analysis. It is correct – within the theoretical dream world described.
- In such a world there are no banking crises. Indeed there are no banks!
- In our world, the hurdle for intervention such as QCG to improve on outcomes is far lower: if markets are rationed then banks always engage in QCG, but just not with the aim to further overall welfare or stable, sustainable growth

The Interest Rate Story

- **“Low or falling interest rates stimulate the economy; high or rising rates slow the economy”**
- **“Interest rates are negatively correlated with economic growth”**
- **“Interest rates are the cause, economic growth follows”**
- **“Thus interest rates should be used as the main policy tool to move the economy”**

Keynesian, Monetarist, New Consensus Approaches: Interest rate reductions will end the Japanese recession.

They didn't.



The elephant in the room:

“Why have **successive interest rate reductions** failed to stimulate the economy?”

Has the ‘liquidity trap’ argument answered this question?

Has the ‘zero bound’ literature provided answers?

The Anomaly of Ineffective Interest Rate Policy: Attempted explanations

➤ Liquidity Trap when rates can't fall further

Ito (2000): Horizontal LM (money demand infinitely interest-elastic) at lowest interest $\rightarrow$ rates won't fall further $\rightarrow$ no room for further monetary (interest) policy, but economy still below Y_f . $\rightarrow$ ineffective monetary policy, and fiscal pol. effective

Krugman (1998), Svensson (2003), Eggertsson and Woodford (2004): rational-expectations equilibrium is unaffected by the composition of the central bank's balance sheet. Transmission purely via expectations, based on interest rate policy.

Problems:

1. Fiscal policy not as effective as the Ito (2000)/IS-LM explanation claims

➤ **2. The main problem with the ‘liquidity trap’ argument:**

The *cause of the trap* remains unexplained (exogenous expectations; flat LM)

The trap is applied to the point of **lowest interest rates**. In Japan this was reached only in March 2003, thus the **analysis does not apply** to the entire decade of the 1990s, when rates *fell* continuously

The ‘liquidity trap’ argument does not answer question **why interest rate reductions were not helpful** throughout the 1990s; it collapses into the tautology of stating that rates can’t fall further, because they have fallen as low as they can fall.

Hence the ‘liquidity trap’ argument cannot be considered an explanation or theory of what happened to Japan in the 1990s.

The puzzle of ineffectiveness of falling rates – which contradicts the New Consensus approach – remains unexplained.

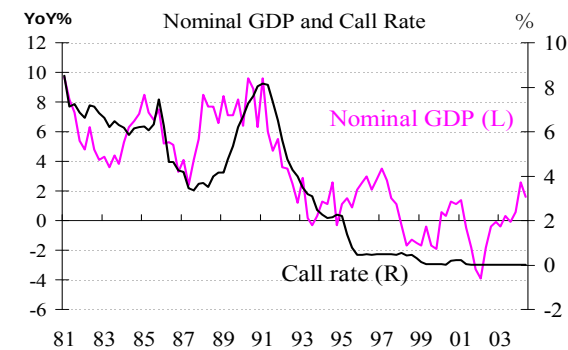
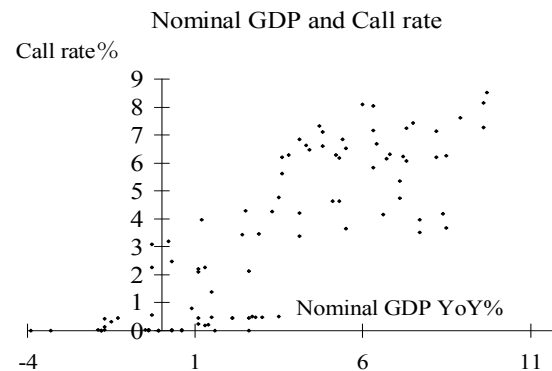
The Interest Rate Story

What are the empirical facts?

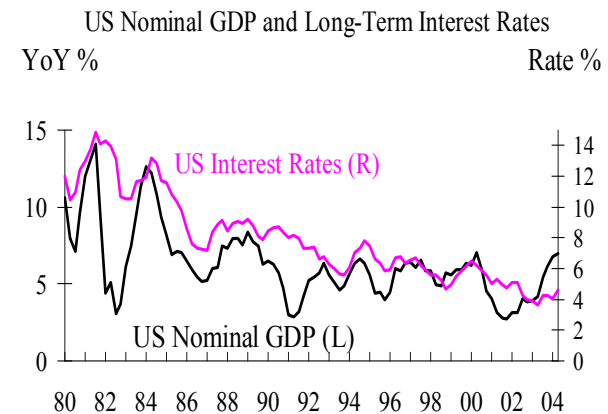
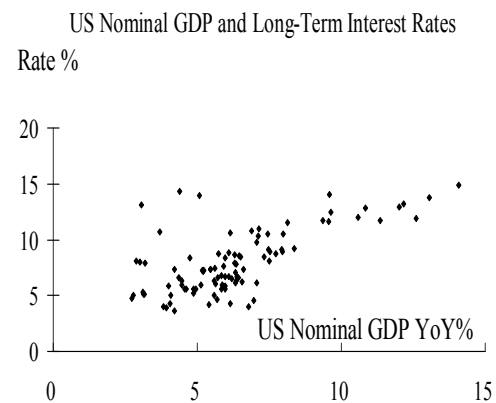
Rates are not negatively correlated to growth – but positively
Interest rates don't lead economic growth – they follow it

- True for long, short, nominal and real rates - and in almost all countries

Japan



US



Cognitive dissonance: Traditional story vs. fact

- Traditional story:

*“Low rates lead to high growth;
high rates lead to low growth.”*

- Fact: **High growth leads to high rates;
Low growth leads to low rates.**
- Interest rates are the **result** – and hence cannot be the cause of growth.
- Thus **why would central banks use interest rates as policy tool?** It is an impossibility.

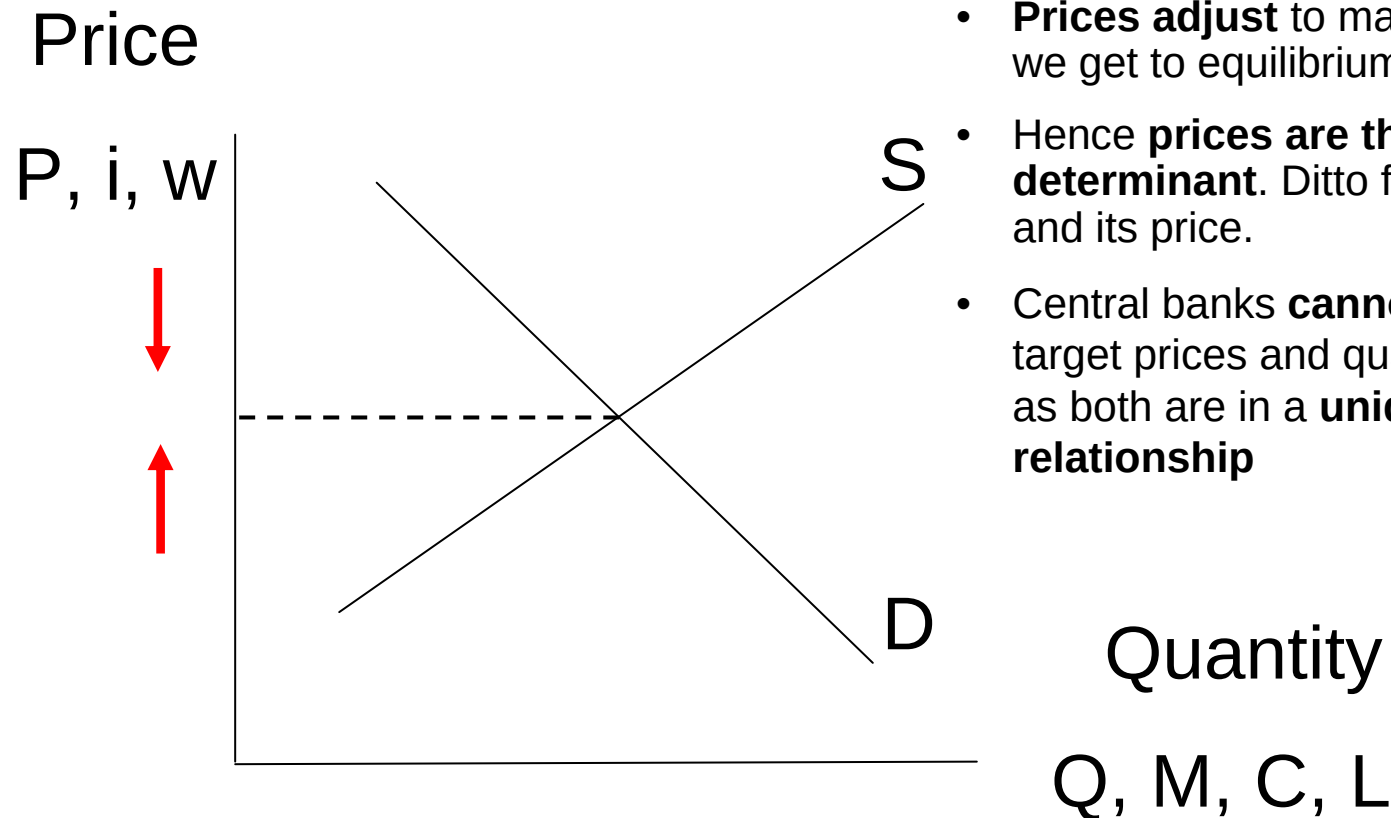
- The facts are occasionally but not systematically recognised in the literature:
- “Because of information problems interest rates do not clear credit markets and quantities of credit may move with no price change.”
Miles and Wilcox (1991: 251).
 - “...interest rates, and interest rate adjustments, do not play the central role that they do in traditional monetary theories. ...credit is not primarily allocated via an auction market. Rather, credit is largely allocated by a system in which potential lenders make judgments...”
Stiglitz and Greenwald (2003: 295).
 - “... a recurrent theme in the literature and among market participants is that the interest rate alone does not adequately reflect the links between financial markets and the rest of the economy. Rather, it is argued, the availability of credit and the quality of balance sheets are important determinants of the rate of investment”. Blanchard and Fischer (1989)

Where does the interest rate theory of monetary transmission come from?

- It is a general argument in equilibrium economics
- Interest rates are the price of money
- The idea that prices are crucial and determine market outcomes is pervasive in economics
- It is based on the most familiar diagramme in economics: a downwardsloping demand curve and an upwardsloping supply curve

The Theory of Equilibrium

Where the two curves intersect, we get equilibrium



- How do we get there?
- **Prices adjust** to make sure we get to equilibrium.
- Hence **prices are the key determinant**. Ditto for money and its price.
- Central banks **cannot both** target prices and quantities, as both are in a **unique relationship**

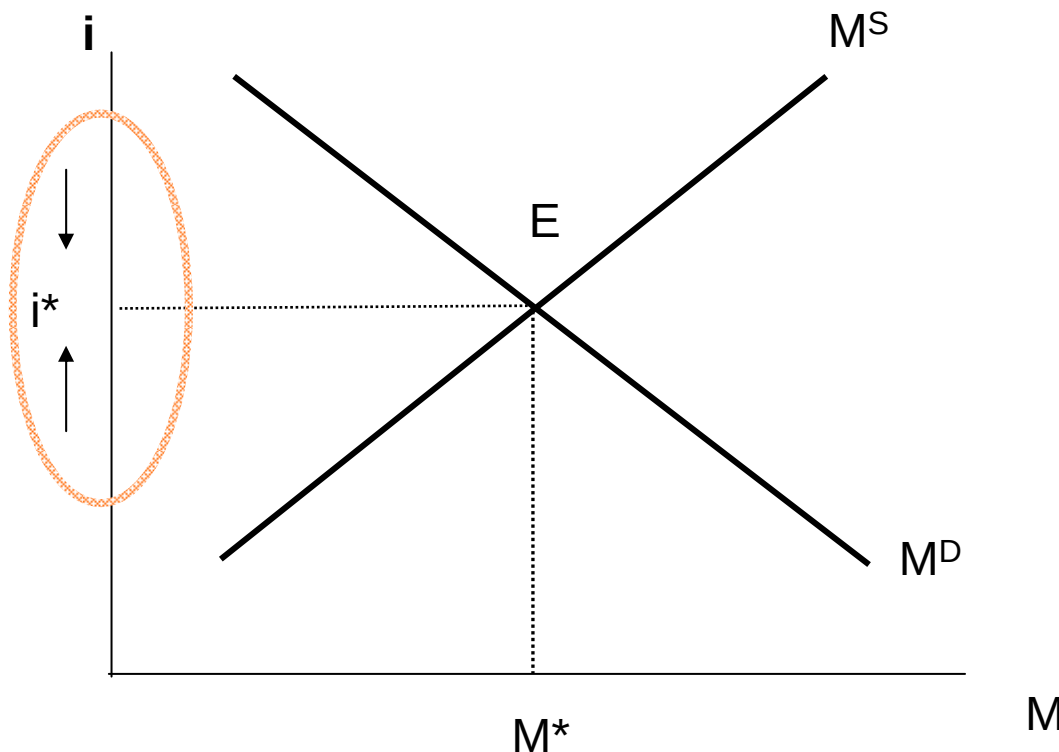
A convenient political implication:

The interest rate theory of central banking allows central banks to claim that they **do not allocate credit**, but operate in a neutral, objective fashion via the price of money.

This could be politically relevant in the discussion of their status, independence, accountability and de facto power.

The Theory of Equilibrium

The equilibrium theory is entirely based on the hypothetico-deductive methodology. It is a theory not derived from empirical facts



FACT: Market equilibrium is **only** obtained when a long list of assumptions hold:

1. Perfect information
2. Complete markets
3. Perfect competition
4. No transaction costs
5. Utility maximisation of rational agents
6. Prices adjust instantaneously
7. All are price-takers

➤ **Perception:**

Neoclassical economics has shown that
prices move to equalise demand and supply = equilibrium.

➤ **Reality:**

Neoclassical economics has shown that
equilibrium exists ***if and only if*** we lived in a world of perfect
**information, complete markets, flexible prices, perfect
competition, etc.**

The Reality of Rationing

- There has never been any empirical evidence that money and credit markets are predominantly in equilibrium. It is a theoretical supposition.
- On the planet we live, there is no perfect information
- In our world, **information, time and money** are rationed.
- Neoclassical economics **has demonstrated that therefore markets cannot be expected to be in equilibrium.**
- What happens when markets do not clear (i.e. always)?
- Demand does not equal supply. **Markets are rationed.**
- Rationed markets are determined by **quantities**, not prices.

The Reality of Rationing

- Rationed markets are determined by **quantities**, not prices.
(Muellbauer & Portes, 1978; Clower, 1965; Leijonhufvud, 1968, Benassy)
- The outcome is determined by the '**short-side principle**'.
- The short side has **allocation power**. E.g. job market; newsreaders

- **Concerning money, the short side is supply:**
 - limited liability of directors
 - small firms are always credit constrained
 - money is uniquely 'useful', hence demand is infinite
- **Concerning bank credit, rationing is well recognised**

It's now official: There is a flaw in economics

- For almost 20 years, Alan Greenspan, Fed Chairman (Aug 1987 – Jan 2006), was the oracle on banking, monetary, fiscal and economic policy.
- A pillar of the Washington Consensus, he recommended **deregulation, liberalisation and privatisation**, because markets, left to their own devices, would produce the best possible result (e.g. his advice to Asia 10 years ago).
- In October 2008, all this changed. The Maestro testified to Congress that his **fundamental grasp of the operation of banking systems and markets was 'partially wrong'**.
- He had uncovered **"a flaw" in how the free market system works**.
- He charged that **"the modern risk-management paradigm... – the whole intellectual edifice – has collapsed"** due to the banking crisis.
- His belief in the **self-regulatory forces of the markets** had been **"shaken"**.

It's the presumption of equilibrium

The Case For QCG – Credit Allocation

- Markets are rationed, so banks always engage in QCG, just not with the aim to further overall welfare or stable, sustainable growth
- Since banks and indeed central banks always engage in credit allocation, it is sensible to make this transparent and accountable, by publicising the rules.
- The only rule required to avoid asset bubbles and banking crises:
banks must not lend for non-GDP transactions.

Credit Allocation

“Are We Allocating Credit? Our actions are aimed at increasing credit flows for the entire economy; we are not trying to favor some sectors over others. However, **an element of credit allocation is inherent in some of our interventions.**

“...we have recognized that the resulting effects can be uneven across markets and lenders. This outcome is not a comfortable one for the central bank”

(Kohn, BGFRS, 18 April 2009)

Policy Lessons

How to end banking crises and ensuing recessions

Successful and Unsuccessful Bank Restructuring Japan 1945-47 vs. Japan 1990s

- Bad debts in 1945 approached 100%. Yet, the problem was quickly solved and a healthy banking sector and strong economic growth re-established.
- The solution: bad loans were quickly removed from bank balance sheets, without costs to economy or government.
- How? The central bank bought the bad loans above market value. On the central bank's balance sheet, they will cause no harm.
- The costs of this solution are zero. Tax money is not used. The central bank merely credits the sellers in its accounts.
- Even if loans with a face value of 100 but a market value of 20 are purchased at face value by the central bank, it will make a profit (of 20). (The magic of credit creation).
- 1990s: the Bank of Japan refused to do this, insisting on its **independence**.

The Solution: How to recapitalise banks, increase credit creation and boost demand - at zero cost!

- All the government needs to do is change the way the bailout is funded: it should **not be the government who pays for this, but the central bank.**
- If the central bank pays, and the assets stay on its balance sheet, there will be **no liability for the government, no increased debt, no increased interest burden, and no crowding out of private demand.** Most of all, there will be **zero costs for anyone.**
- Even the Bank of England is sure to make a **profit** (as it acquires assets of a value higher than zero; but its funding costs are zero).
- A radical idea, never implemented? Think again.
- Bank von England 1914, Bank von Japan 1945, Federal Reserve 2008

**Richard A. Werner, 'Create a Recovery Through Quantitative Easing',
2 September 1995, *Nihon Keizai Shinbun* (Nikkei)**



The Ineffectiveness of Fiscal Policy

- We know from the disaggregated equation of exchange:

$$(6) \quad \Delta(P_R Y) = V_R \Delta C_R$$

- Without an increase in credit used for GDP transactions, nominal GDP cannot grow:

- Substituting (6') $V_R \Delta C_R = \Delta(P_R Y) = \Delta(c + i + g + nx)$

- If there is no credit creation, then there cannot be nom. GDP growth, even if there is greater government expenditure Δg

$$(14) \quad \Delta C_R = 0 = \Delta(c + i + nx) + \Delta g$$

Then: $(15) \quad \Delta(c + i + nx) = -\Delta g$

= complete quantity crowding out

- **Testable hypothesis:** the coefficient of Δg should be **-1**

The Ineffectiveness of Fiscal Policy

- Empirical test: (breaking GDP into its components in eq. (8) and solving for domestic demand)

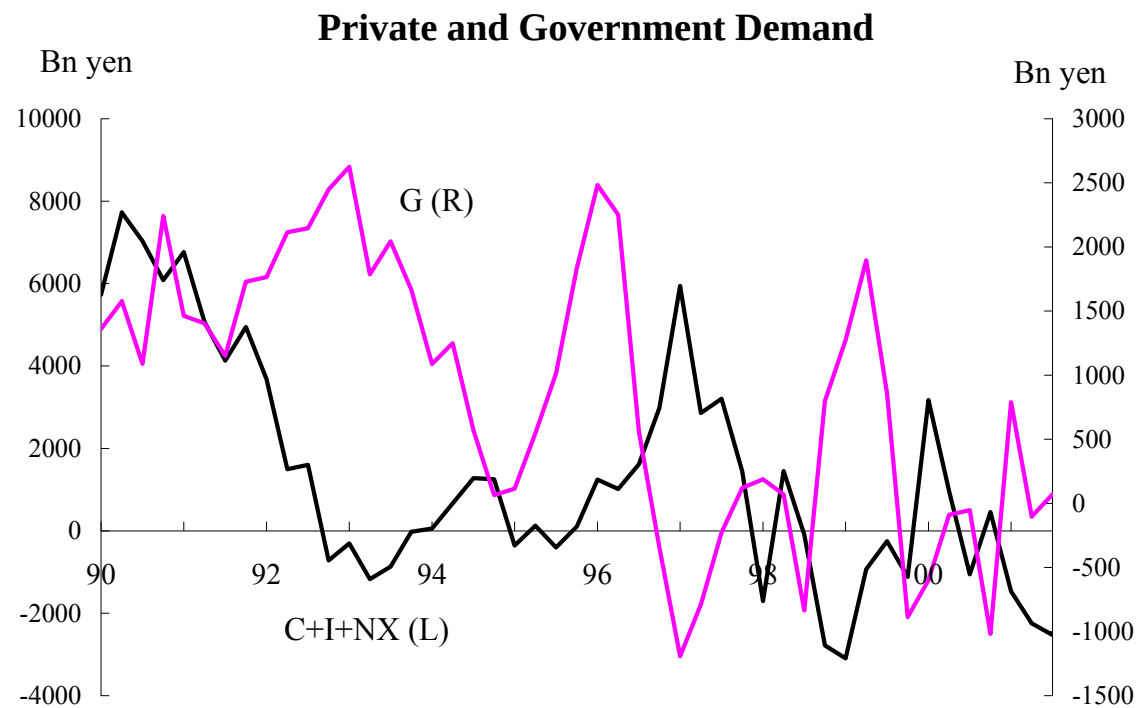
$$(16) \quad \Delta(c_t + i_t + nx_t) = b_1 + b_2 \Delta GDP_{t-1} + b_3 \Delta C_{Rt} + \square\square b_4 \Delta C_{Rt-3} + b_5 \Delta G_t + e_t$$

- A regression should yield as coefficient for government expenditure: $\beta_5 = -1$

- **Estimation Results of Private Demand Model**

- sample length from 1983 to 2001
- sample length from 1990 to 2001
- linear restriction tests

The Ineffectiveness of Fiscal Policy

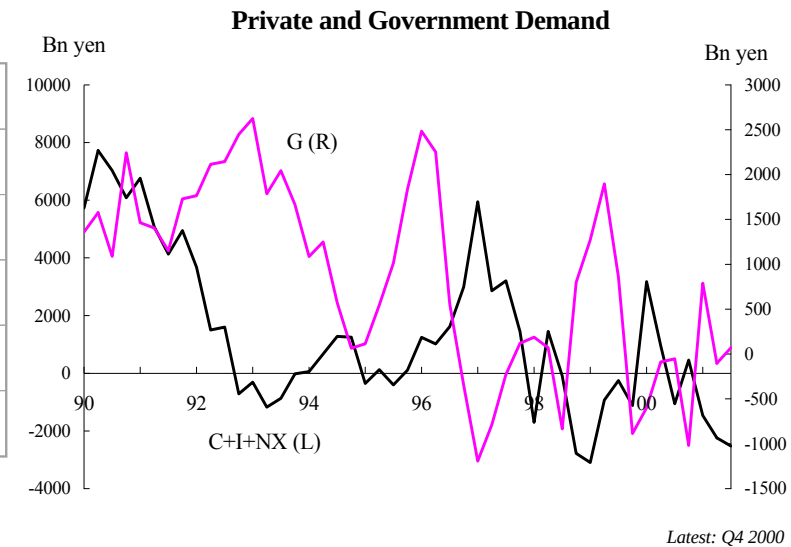


Latest: Q4 2000

Credit Explains Ineffectiveness of Fiscal Spending

- Estimation Results of Private Demand Model sample 1990 (1) to 2000 (4)

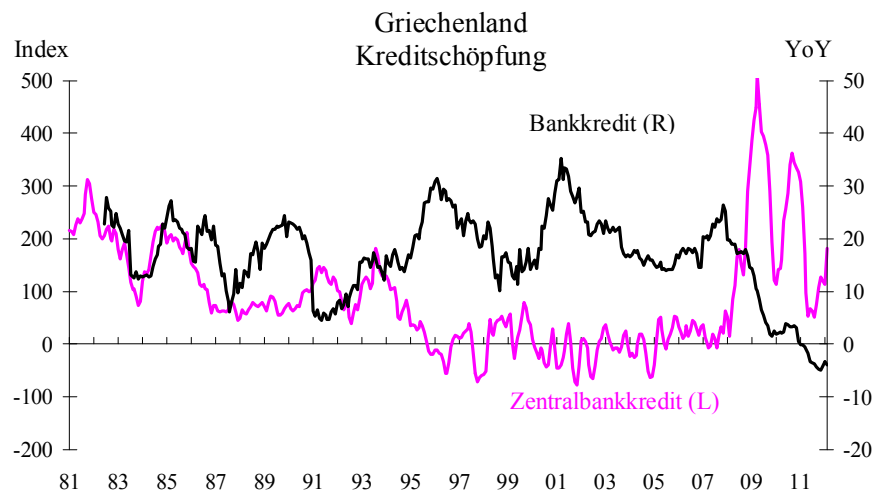
	Coeff.	Std. err	t-value	t-prob.	Part.R2
Const	430.797	323.8	1.33	0.191	0.043
$\Delta GDP1$	0.369	0.128	2.90	0.006	0.177
$\Delta GDP3$	0.203	0.111	1.83	0.075	0.079
ΔC_R	0.015	0.004	3.45	0.001	0.233
ΔG	-0.957	0.206	-4.65	0.000	0.357



Result: $\beta_G = -1$

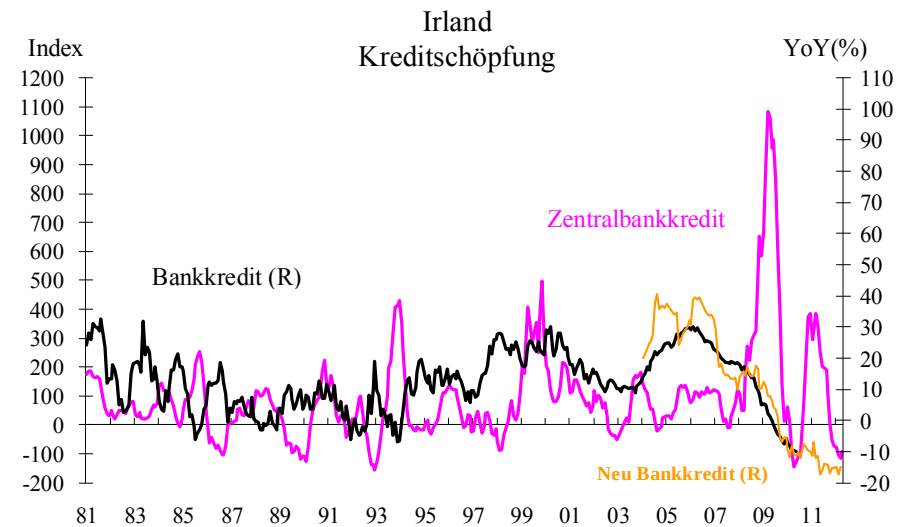
Without a rise in credit used for GDP transactions, nominal GDP can't grow
(complete quantity crowding out; gov't share of given pie rises).

Without bank credit creation the economy will shrink



Latest: Mar 2012

[profit] RESEARCH CENTER LTD.



Latest: Apr 2012

[profit] RESEARCH CENTER LTD.

Bank credit creation is negative in Greece, Ireland,
Spain, Portugal

Applying this Framework to Solving the European Sovereign Debt Crisis

Werner-Proposal of 2011 (and 1996)

- Ireland, Portugal, Spain, Italy and Greece need to stimulate economic growth
- Their governments need to save money and reduce borrowing costs.
- Bank credit growth needs to expand and banks need a safe way to expand their business and their returns
- Here is how all of this can be achieved:
 - Governments need to **stop the issuance of government bonds**
 - Instead of borrowing from the bond markets – who do not create money – governments should fund their borrowing requirements entirely by **borrowing from all the banks in their country.**

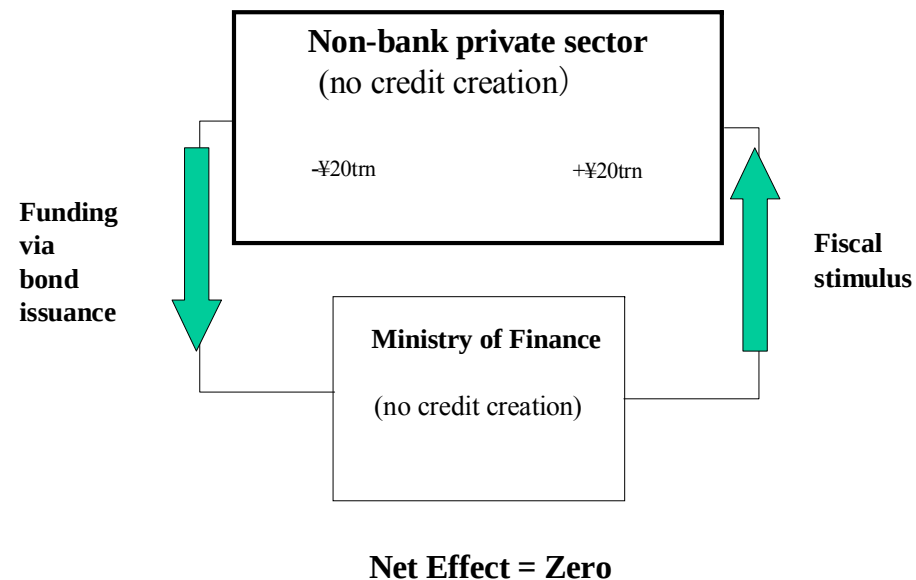
Werner-Proposal: The solution that maintains the euro and avoids default

- Governments should enter into 3-year loan contracts at the much lower **prime borrowing rate**.
- Eurozone governments remain zero risk borrowers according to the Basel capital adequacy framework (banks are thus happy to lend).
- The prime rate is close to the banks' refinancing costs of 1% - say 3.5%.
- **Instead of governments injecting money into banks, banks create new money and give it to the governments.**

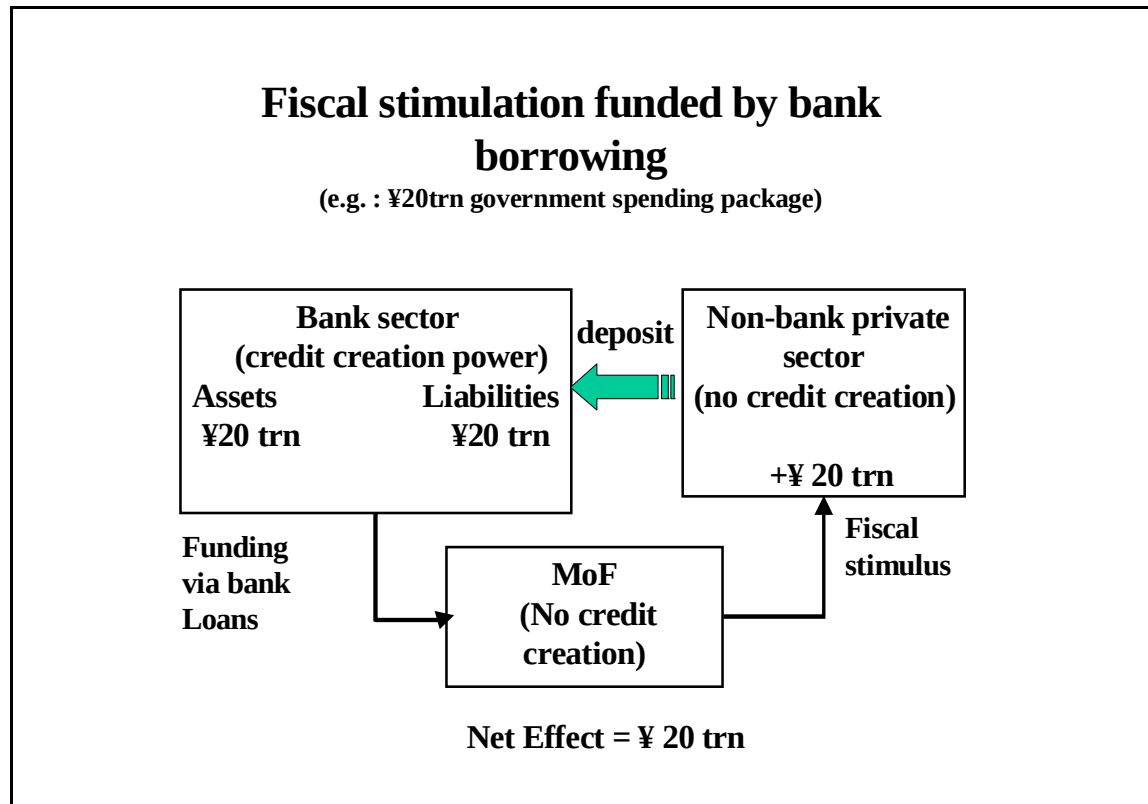
Why fiscal spending programmes alone are ineffective

Fiscal stimulation funded by bond issuance

(e.g. : ¥20trn government spending package)



How to Make Fiscal Policy Effective



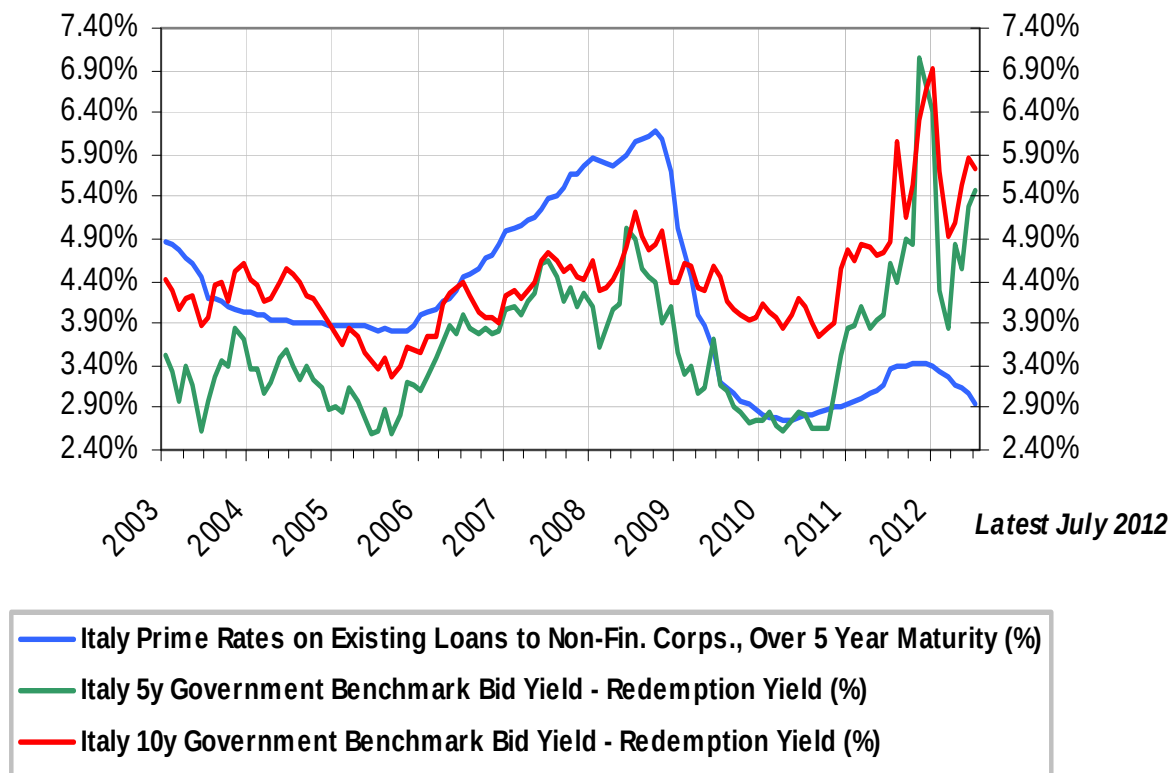
Advantages of this Proposal

- The proposal will not increase aggregate debt.
- The incentive structure is right, as each country remains in charge of and liable for its debts. Thus e.g. Germany's credit rating will not be damaged.
- But it takes the monthly market pressure out of the picture: no more rising bond yields as old bonds mature, so also no further ECB intervention required or purchases by the EFSF, etc.
- The immediate savings will be substantial, as this method of enhanced debt management reduces the new borrowing costs, even below post-ECB-purchase yields (E 10bn in the coming year for Italy alone).

Advantages (II)

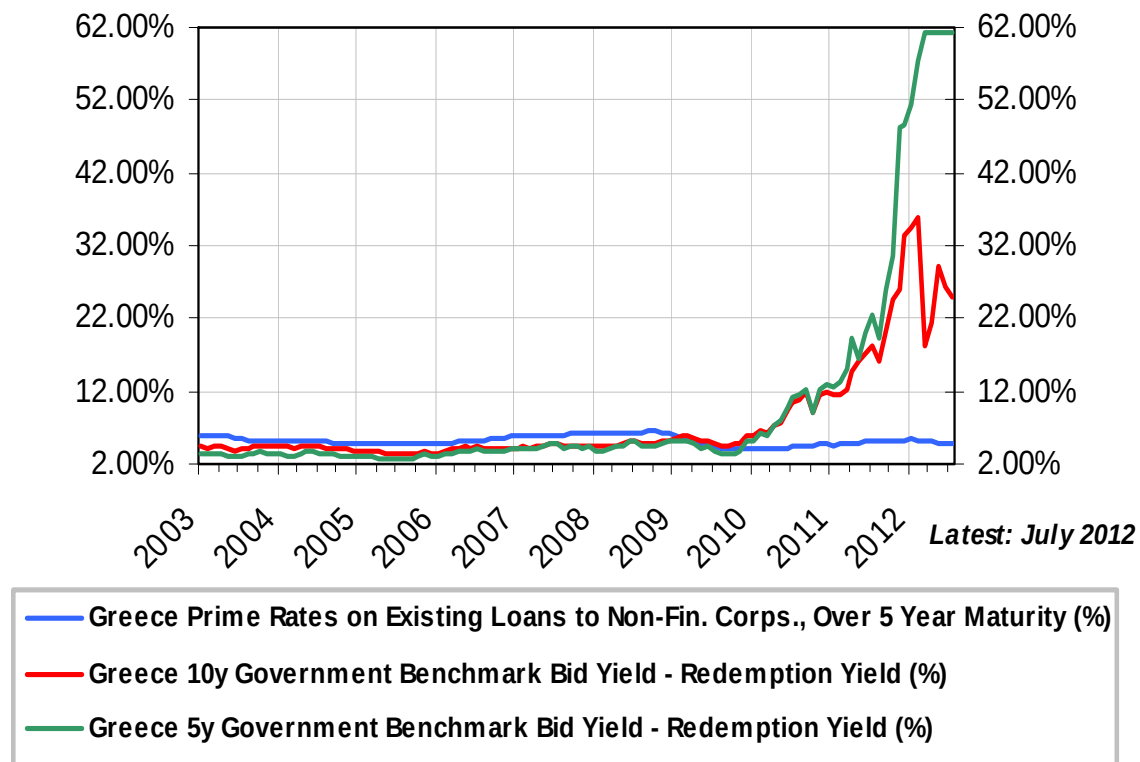
- This proposal addresses the core underlying problem: slowing growth and the need to stimulate it. The proposal will boost nominal GDP growth – and avoid crowding out from the bond markets.
- This is a problem as tight fiscal policy and tight credit conditions slow growth, with bank credit shrinking: Germany (-0.1%), Greece (-3.5%), Spain (-0.5%), Ireland (-14%).
- Bank credit extension adds to the money supply. From the credit model we know that the proposal will boost nominal GDP growth – and avoid crowding out from the bond markets.
- This **increases employment and tax revenues**.
- It can push countries back from the brink of a deflationary and contractionary downward spiral into a **positive cycle** of growth, greater tax revenues and falling debt/GDP.

Prime Rate vs. Market Yield of Benchmark Bonds: Italy



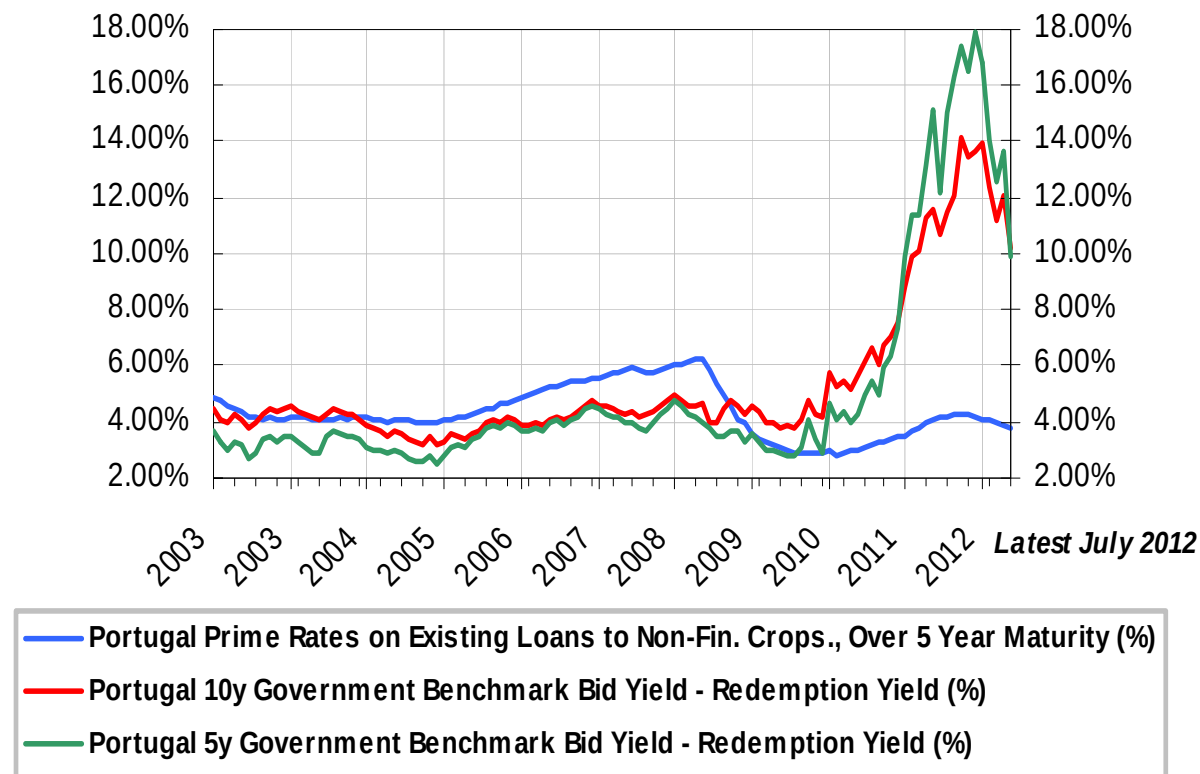
Source: Thomson
Reuters Datastream, ECB

Prime Rate vs. Market Yield of Benchmark Bonds: Greece



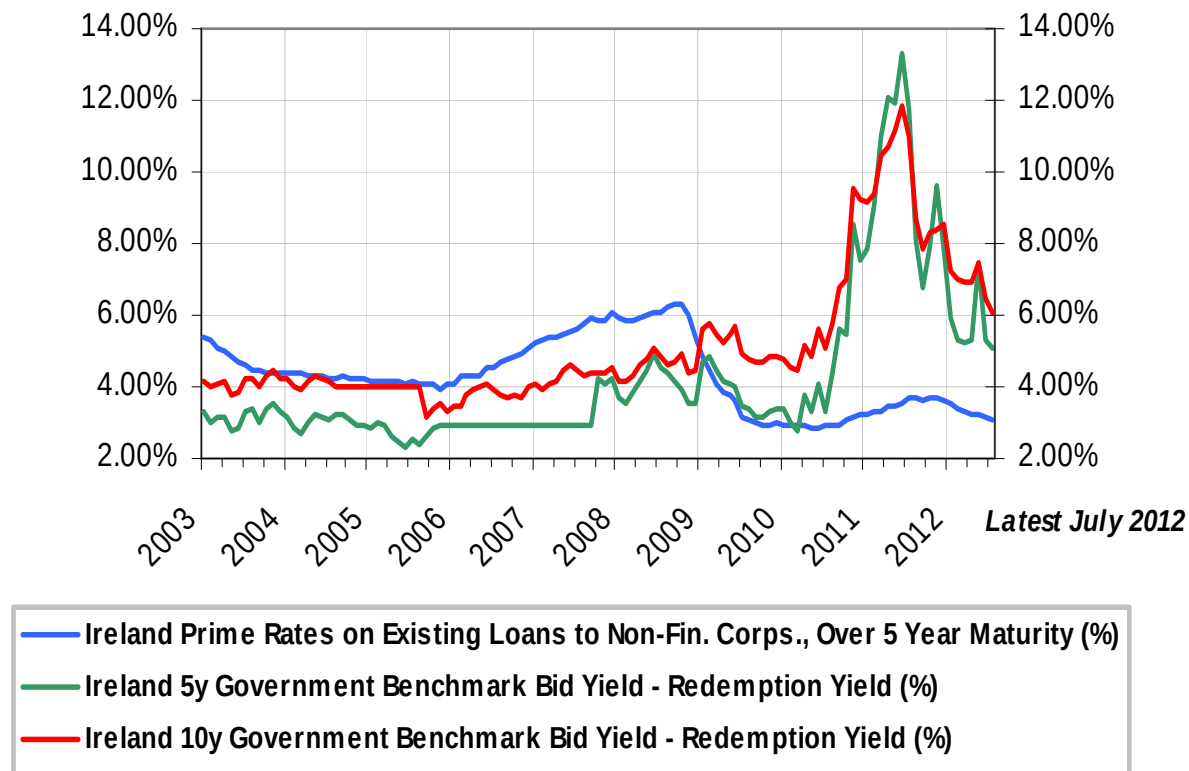
Source: Thomson
Reuters Datastream, ECB

Prime Rate vs. Market Yield of Benchmark Bonds: Portugal



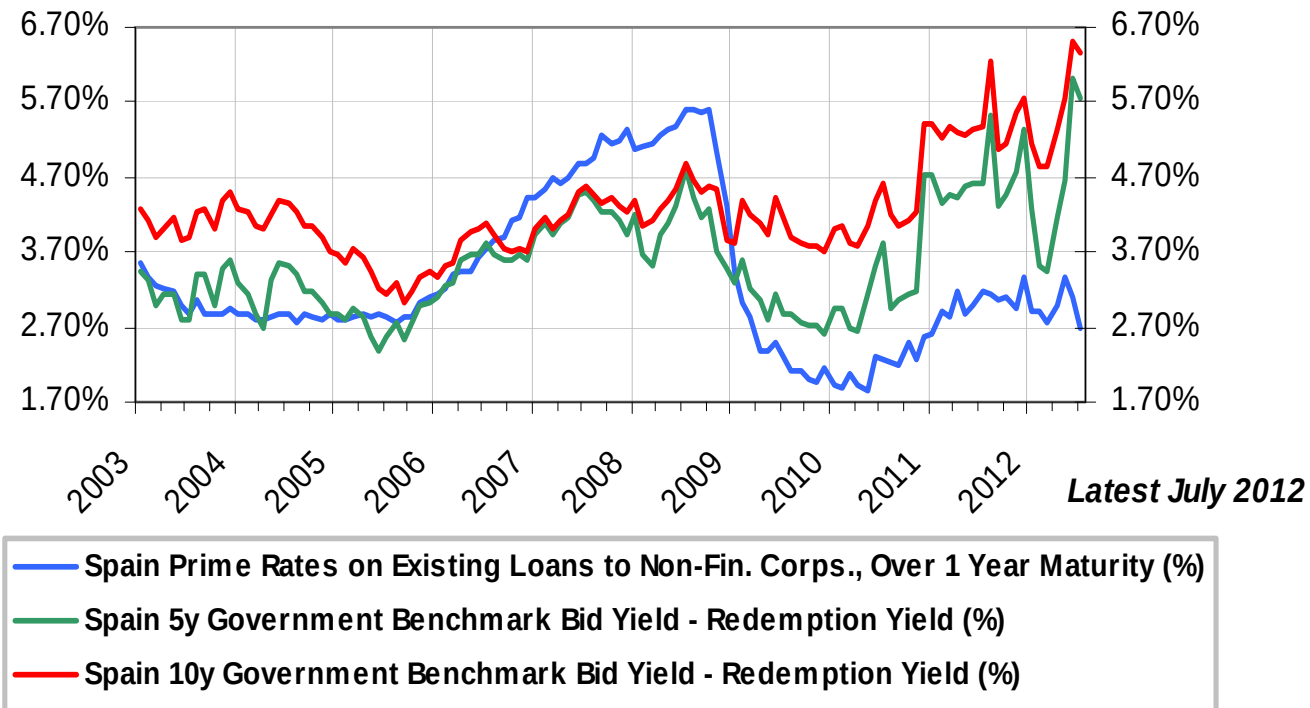
Source: Thomson
Reuters Datastream, ECB

Prime Rate vs. Market Yield of Benchmark Bonds: Ireland



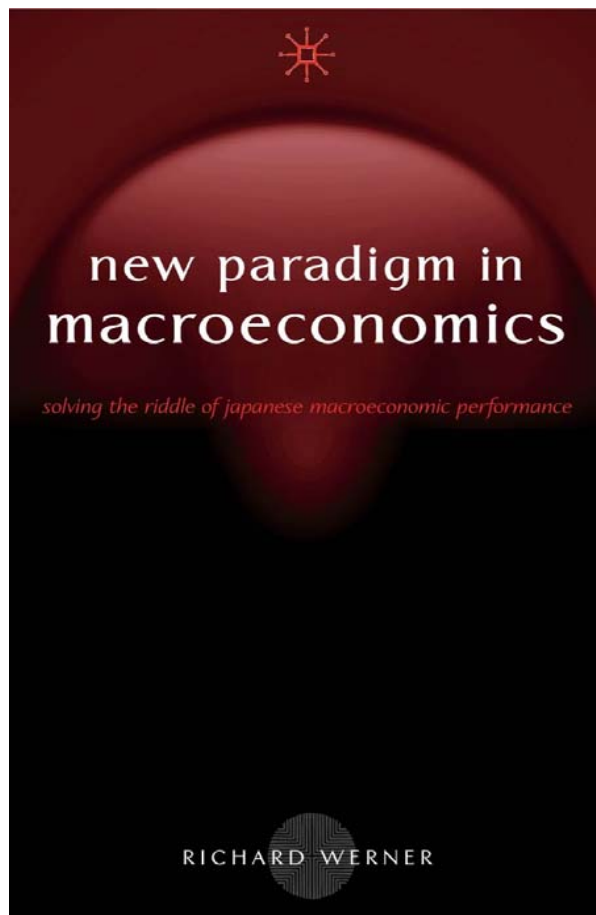
Source: Thomson
Reuters Datastream, ECB

Prime Rate vs. Market Yield of Benchmark Bonds: Spain

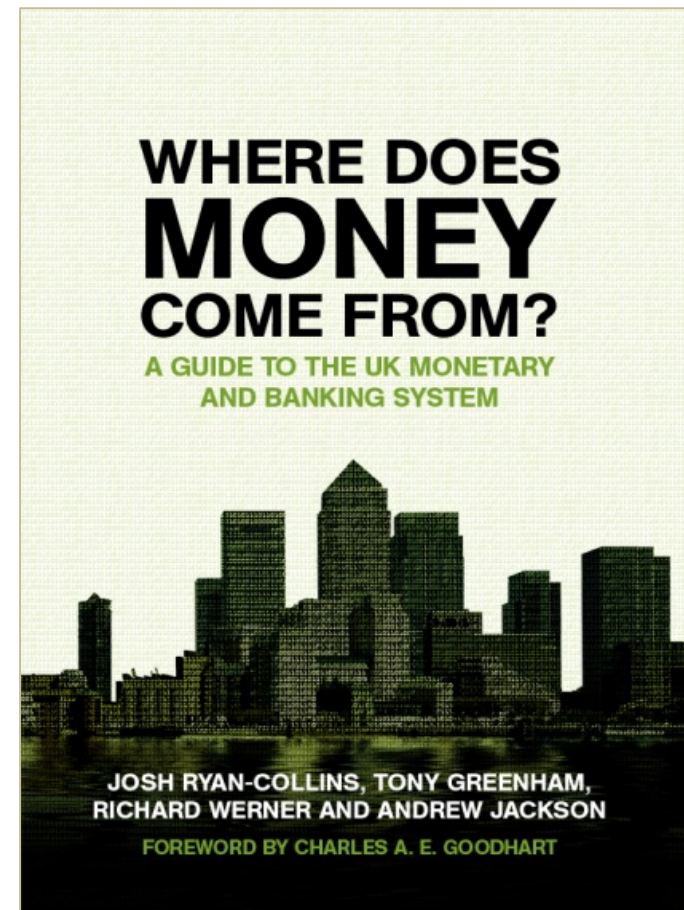


Source: Thomson
Reuters Datastream, ECB

Further Reading:



Basingstoke: Palgrave Macmillan, 2005

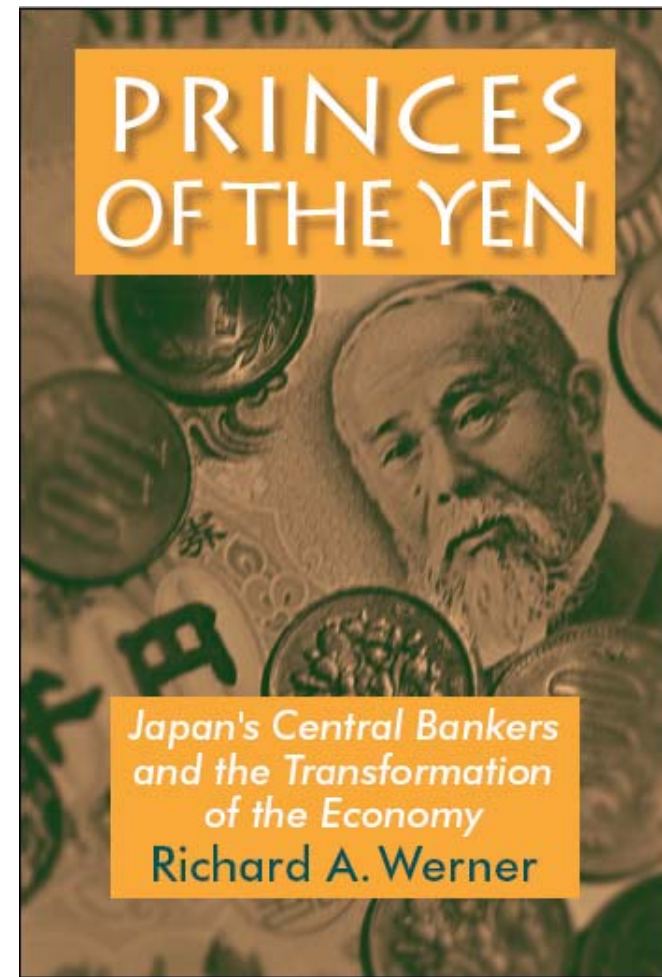


New Economics Foundation, 2011

Weitere Details:



München: Vahlen Verlag, 2007



M. E. Sharpe, 2003

Warnings had been given:

- Chapter 19 of the Japanese original of *Princes of the Yen*: “**When the US stock market collapses and overextended banks veer on the brink of bankruptcy**, individual savers will not lose their livelihood, as they did in the 1920s. America now has a deposit insurance system. The problem is, however, that due to financial deregulation, the money is not in the bank anymore. Over the past 25 years, a dramatic shift of savings has taken place, from bank deposits to the equity market. Whether directly or via mutual funds, up to 50% of individual savings are now invested in the stock market. And there is no insurance against capital losses in the stock market yet.” ... “**Alan Greenspan knows that the economic dislocation that will follow his bubble will let previous post-war economic crises pale by comparison. Individual savers will lose their money.** In the words of Alan Greenspan (1967): “The financial policy of the welfare state requires that there be no way for the owners of wealth to protect themselves.” **Large losses will be incurred by most Americans, when the Fed changes its policy and sharply and consistently reduces credit creation, as it ultimately will.** A Great Depression is possible. Of course, it could be avoided by the right policies.” Richard A. Werner (2001). *En no Shihasha (Princes of the Yen)*, Tokyo: Soshisha
- In the English Version of *Princes of the Yen* (last chapter) I also warn of a **major boom-bust cycle in Europe, with the European asset bubbles caused by an excessively powerful and unaccountable ECB**. Richard A. Werner (2003), *Princes of the Yen, Japan’s Central Bankers and the Structural Transformation of the Economy*, M. E. Sharpe.